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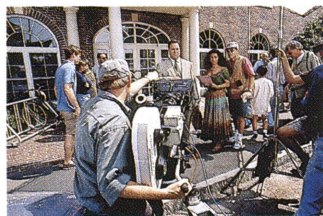
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On Our Cover: A pair of mistreated women (Sharon Stone and Isabelle Adjani) seek revenge against their male tormenter — and solace in each others' arms — in *Diabolique*, a modern update of the 1955 thriller. The new version was directed by Jeremiah Chechik and photographed by Peter James, ASC, ACS. (Photo by James Bridges, courtesy of Warner Bros.)

Contributing Authors: Michael X. Ferraro, Al Harrell, Chris Pizzello, Fred Szebin, Cliff Terry



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April 1996 Vol. 77, No. 4

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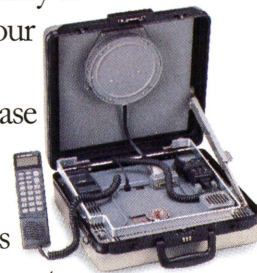
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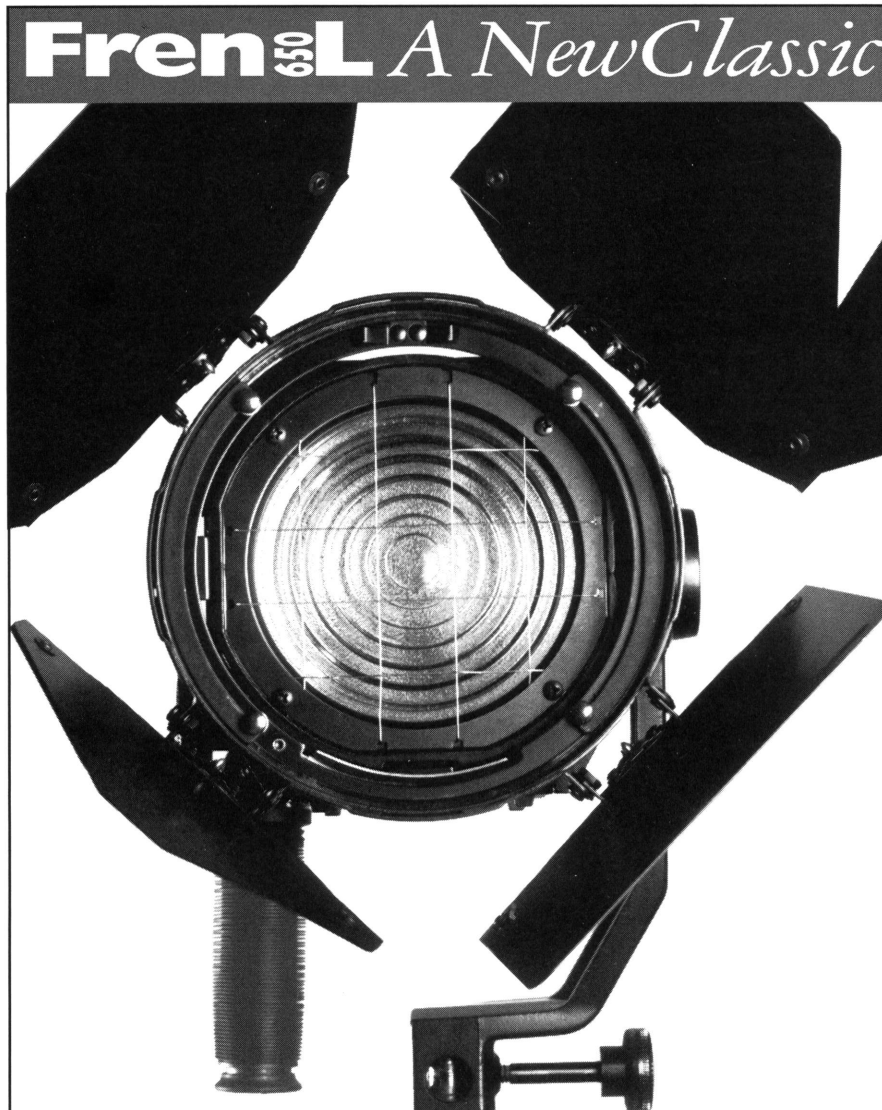
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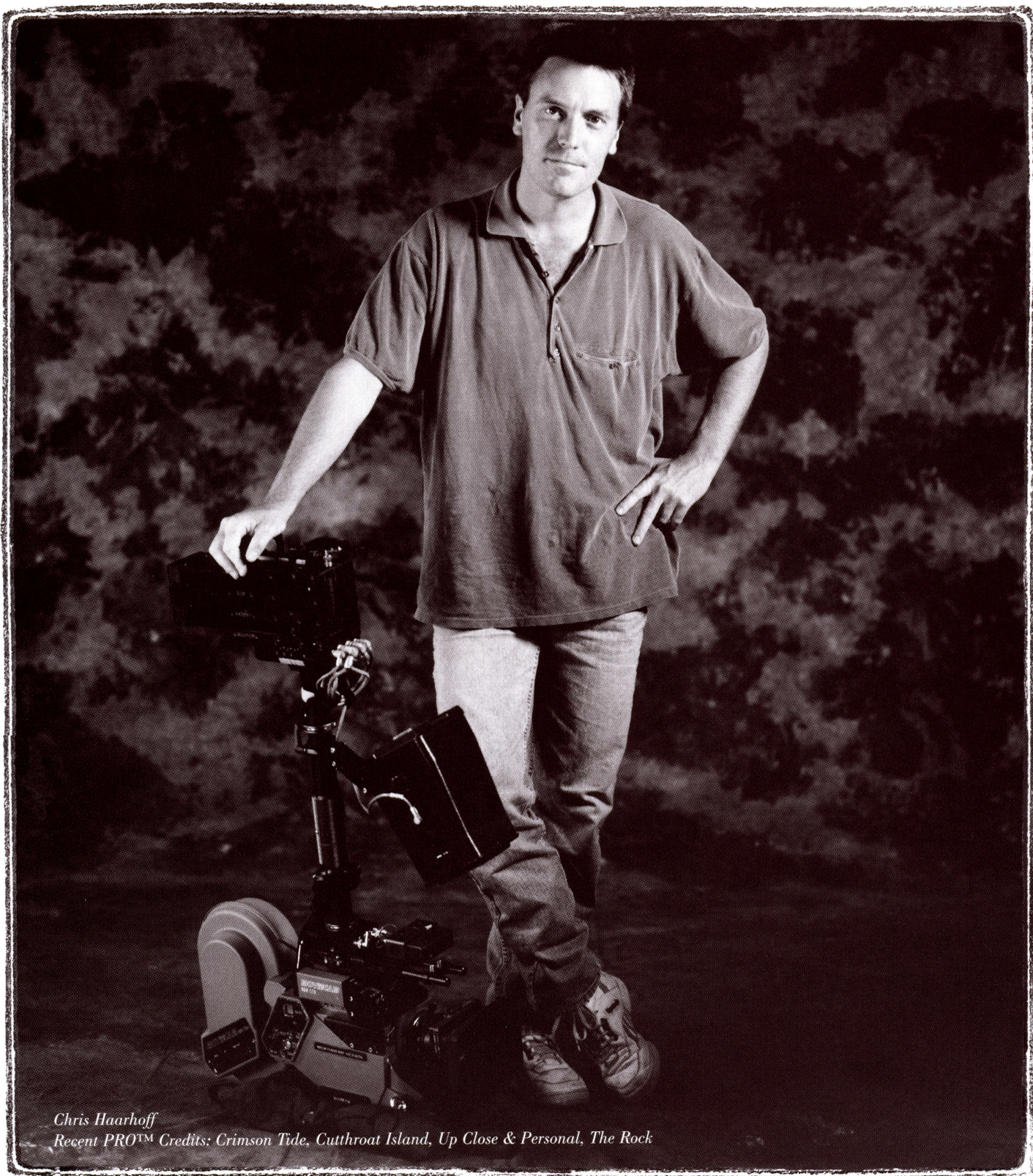
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Camera provided by Clairmont Camera

How Clairmont sees the Moviecam SL:

Light weight is just the beginning. This is an excellent *dual-purpose* B camera. Silent-running, shares modules with the Moviecam Compact A camera. And you can switch it very quickly from studio mode to hand-held or Steadicam mode, so you don't need to rent a third camera.

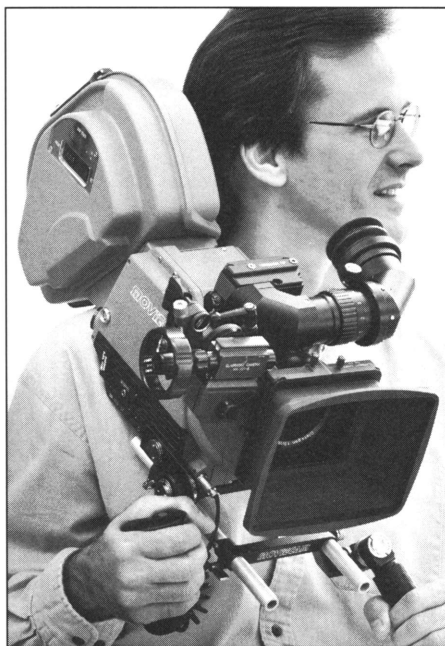
How long does it take to switch an SL from one mode to another? We timed one man making two switches; the results impressed us.

Test results:

At the top of the other page, you can see one of our SLs in full studio mode. At the bottom is an SL in Steadicam mode. We were able to switch from studio to Steadicam in two minutes, four seconds, including film threading.

We asked Moviecam for a 150° shutter setting. Here's what happened:

On the phone with Moviecam designer Fritz Gabriel Bauer, Denny Clairmont mentioned that a 150 degree position on the Compact's adjustable shutter would be useful to people shooting at 25 fps with HMI lights in 60Hz countries. It was said only once — but in our next shipment, there it was, on all the cameras. The SL uses the same *helpful* shutter.



Not long

From studio to hand-held took our man four minutes, ten seconds. Most of the extra time was spent on the left handgrip with its bracket/rods and on the follow-focus.

Not heavy

In hand-held mode, that SL weighed 23 lbs with video tap, hand-held finder, handgrips/rods, Zeiss 35mm T1.3, follow-focus, MB3 mattebox and empty magazine. In Steadicam mode, with video tap, same lens/mattebox and empty magazine, it weighed 17 lb 10 oz.

Same movement

Those are M.O.S. camera weights; but the SL is clearly a sync-sound production camera, in all three modes. It uses the same dual-pin registration movement as the Compact, it has the same adjustable shutter and it can be equipped with the same electronics.

Same accessories

Plug-in accessories provide sync with video monitors and rear projection, speeds from 2 to 40 fps and an iris motor that automatically compensates. With the Compact's viewing module on the SL, you can use the long finder and swing it over. Spherical or anamorphic. Tach and footage counter on both sides. Movieglow.

Rental package

So we see the SL as a dual-purpose B camera — and that's the way we're packaging it. The daily rate is for an SL in its basic hand-held mode. You can mount your 1000 foot Compact magazines. But if you want the Compact's viewing modules and electronics on your SL, you'll rent our studio mode kit.

Customized cost

This way, you rent only as much SL as you need, when you need it. You can customize your SL's weight *and its cost*, from day to day. And you don't need to rent a third camera for hand-held and Steadicam shots.



Extremely quiet

How quiet is the SL? "The Compact was the lightest-weight silent-running camera in the World before the SL came along," says Denny Clairmont. "The Compact is the quietest camera I've ever met and I've met them all. The SL is extremely quiet, but not quite as quiet as the Compact."

Kiss me

Here's the rule of thumb: the SL is quiet enough to shoot anywhere except close in above a love scene where the actors are whispering to each other. For that shot, use your A camera.

In studio mode, above, viewing system and magazine are from Compact. Camera body module weighs 8 lb 6 oz.



Magazines are small because of active displacement.

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Letters

More Dish on the Brits' Gaslight

I enjoyed your article about *Gaslight* in the December 1995 issue of *AC*, but Thorold Dickinson, director of the British version of *Gaslight*, told me something about the way he shot the film which seems worth putting into print.

I knew Dickinson because he had been Head of Film Studies at University College in London, where I studied English. He had retired shortly before my time, but was an enthusiastic supporter of our film society, and it was thanks to him that we had a magnificent 500-seat theatre with 35mm Dolby projection facilities, as well as 16mm filmmaking equipment.

In a letter to me dated 17th November 1981, Thorold wrote, "*Gaslight* was the first British film to be produced in story continuity. There was no other film being shot at Denham, so we built all the sets first and moved from set to set according to the order of shots in the script, keeping control of the flow of emotion. Sid Cole cut each day's work the following day so that we could check on our achievements."

It was rumored for years that MGM had junked the negatives of the British version, but I'm happy to say that this rumor is untrue.

I've been reading *AC* since 1985, and I think it's excellent; keep up the good work!

— Andrew McCarthy
London

70mm Publication

I'd like to bring to your attention the International 70mm Association and *The 70mm Newsletter*, which is published four times a year and deals with every aspect of 65mm/70mm film. There are Association members all over the world, all dedicated to the subject of the advantages of 70mm.

For more information please write to *The 70mm Newsletter*, c/o Thomas Hauerslev, Kong Georgs Vej 12, St., DK-2000 Frederiksberg Denmark, 45 3834 2214, FAX 45 3110 3032.

Please send any comments or suggestions to Letters to the Editor, American Cinematographer, P.O. Box 2230, Hollywood, CA 90078. Or reach us online at ASCMAG@aol.com.

Industry Veteran Mourned

Leon Cohen, a 40-year veteran of the film industry, died on February 3, 1996, at age 65. Cohen's skill and perfectionism as a dailies supervisor at various film laboratories drew a loyal following of producers and cinematographers throughout his career.

Born in Paris, France on May 15, 1930, Cohen survived the Holocaust and emigrated to New York in 1948 at age 18. Only a year later he volunteered to serve with the U.S. Army in Korea, earning two Purple Hearts.

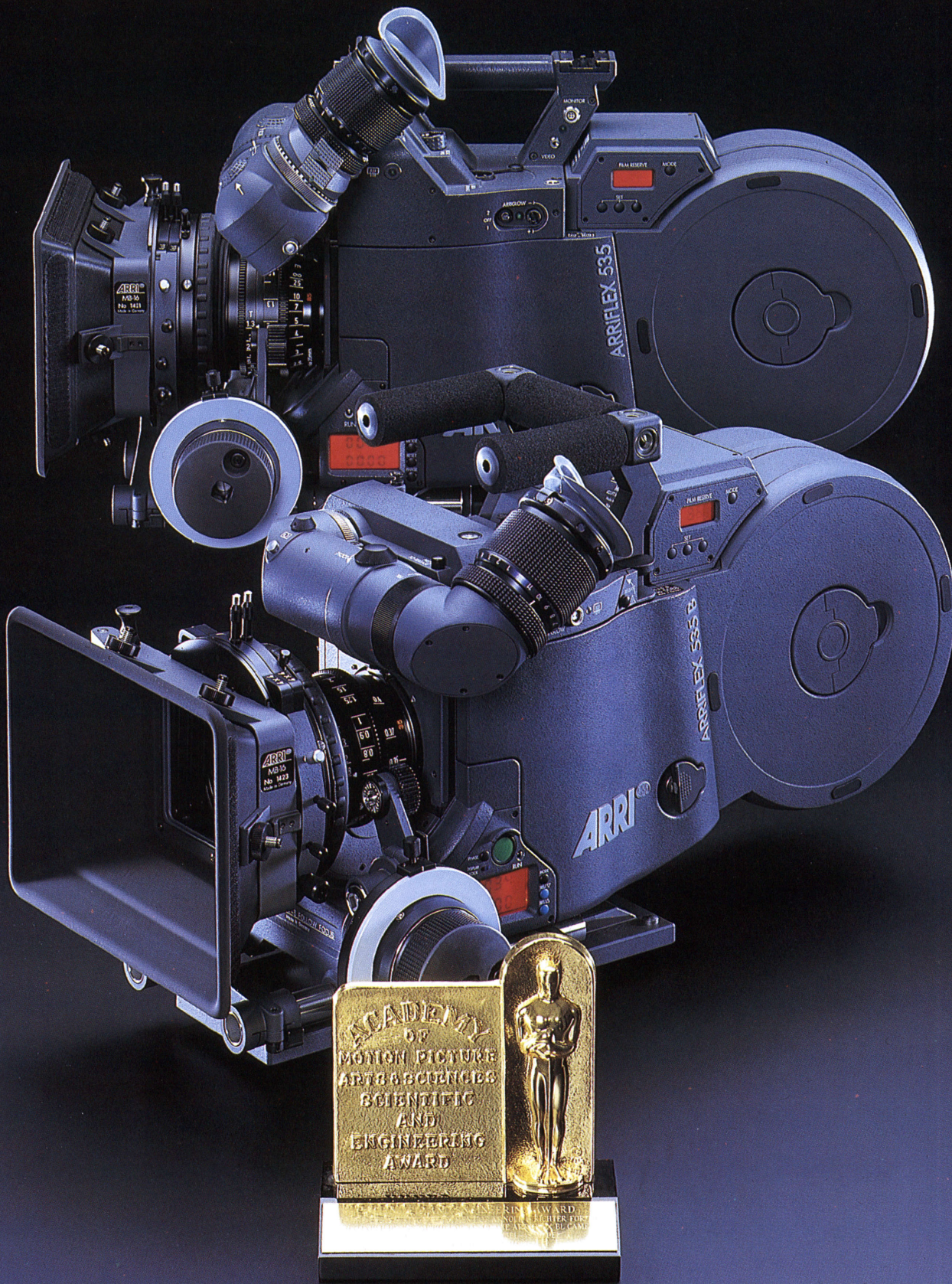
While studying under the G.I. Bill after his discharge from the Army, Cohen began work at Pathé Film Laboratories. His passion for the film industry quickly became evident and it wasn't long before directors of photography and producers knew him as someone upon whom they could depend for an early-morning an-

swer to that all-important question, "Are my dailies okay?"

Many of Cohen's clients followed him as he moved to Movielab, Precision, T.V.C., and then to Du Art. While at Movielab, Cohen's dogged commitment came to the fore the night a fire broke out at the facility: when firemen insisted that Cohen shut down the machines, he refused, even when threatened with a summons. As it turned out, the fire was elsewhere, and the negative was saved.

Bob Smith, president of Du Art Film and Video in New York, where Cohen was commercial dailies supervisor, remembers him as "an institution in the film industry. Leon was one of a kind."

Cohen's family suggests that in lieu of flowers, donations be made in his name to the Holocaust Museum in Washington, D.C.



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The Post Process

NAB Buzz

by Debra Kaufman

For post mavens heading to NAB this year, the show will be more daunting than ever, split between the Las Vegas Convention Center and the distant Sands Exposition and Convention Center. For those who manage to make the trek, the satisfaction will be in seeing the brand-new boxes and the latest evolution of technologies introduced last year.

Faster, better, cheaper computer platforms are always welcomed in the increasingly digital post houses, so attendees will no doubt gravitate to the Silicon Graphics booth, where that manufacturer will be showing Impact, the latest member of the Indigo2 workstation family, and InfiniteReality, the next generation of the Onyx RealityEngine. Impact's claim to fame is its ability to combine 3-D graphics and imaging, at a price (starting at \$35,000) that rivals high-powered PC-based solutions. NAB will be a chance to see more software applications actually running on the Impact product line. InfiniteReality offers a new graphics subsystem for much faster graphics. Discreet Logic announced support of this platform for Flame, Inferno and Vapour products. SG has gained a great deal of prominence in the entertainment industry, which now accounts for 20 percent of their business, up from five percent only three years ago.

Also worth checking out at NAB are Sun Microsystems (whose workstations rendered *Toy Story*), Hewlett Packard, and Apple, among others. With regard to new software applications, it will also be interesting to see if Windows NT is catching on and what possible future impact this operating system will have on the post house.

For post-house executives, one of the most interesting technologies at NAB '96 will be nonlinear online systems offering D-1 quality video and additional features such as DVEs, compositing and audio. Two such systems — Quantel's Edit Box and Avid Technology's Media

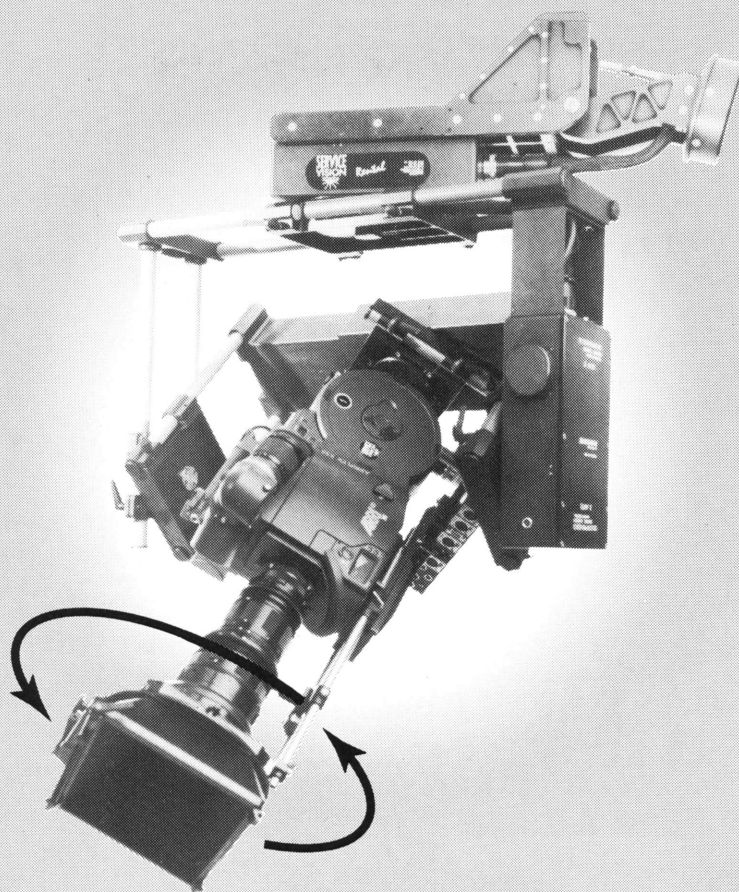
Spectrum — were introduced last year. New from Discreet Logic is Fire, scheduled to ship by June '96.

Media Spectrum, which will be the centerpiece of Avid's NAB booth, is an "all-digital, open architecture-based online suite" which offers paint, rotoscoping, animation, compositing, layering, keying, 3-D DVE, character generation, and color correction in addition to editing uncompressed CCIR-601 images and 16-bit, 48 KHz digital audio. Running on an SGI Onyx platform, Spectrum uses the same editing interface and tool set as the Mac-based Media Composer. Features include full-screen editing and playback using separate source and record monitors and intuitive timeline, trim-mode editing and multiple levels of undo/redo. Material can be cut in NTSC or PAL at 4:3 or 16:9 and replayed in forward or reverse at variable speed.

Quantel has installed 150 of its Edit Boxes since its introduction last year. This "online suite in a box" offers uncompressed CCIR-601 digital editing with storage on Quantel's Dylan disk arrays. Connected to its Clipbox server, Edit Box can be expanded up to 10 hours of uncompressed storage or up to 40 hours with compression. The single-layer Edit Box 1000 provides cuts, wipes, dissolves, slo-mo, EDL auto-conform and multi-channel audio. Edit Box 2000 and 3000 provide, respectively, one or two M/E channels over a live video background, with keyers, DVE with tracking and stabilizing, color correction, retouch and matte controls and Edge FX. The Edit Box 4000 provides a third M/E channel, paint capabilities, and other high-end effects.

Discreet Logic's Fire is a fully scaleable, nonlinear online full-resolution digital editing system that features a gestural interface and audio and video editing tools. A Discreet Logic spokesperson says that although Fire now runs on an Onyx RealityEngine 2, the company has "future plans to address

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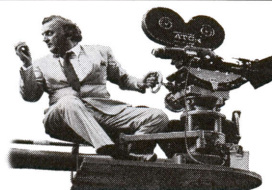
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the InfiniteReality platform." Fire's EditDesk is a picture-based interface for storyboard and timeline editing. SoftEdit enables shots and transitions to be modified at any time during the edit process. Other features include color correction, keying, true-perspective 3-D DVEs, compositing, character generation, and tracking and stabilization tools. Fire also offers support for standard EDLs and OMF Interchange.

The brouhaha over these systems shouldn't keep interested post users away from checking out what's new with Lightworks (now part of Tektronix), ImMix (now part of Scitex Digital Video), Matrox — or the roughly 200 other non-linear editing systems.

Post-house executives eager to create the digital facility for the rest of the 1990s and beyond will also be looking at some of the building blocks: networking, media servers, and asset management. The ability to use fiber-optics to network images and sound down the hall and across the country has become increasingly attractive, so NAB '96 will highlight more developments from telcos and others interested in jumping on the bandwagon.

Media servers — those giant hard drives that allow images and sounds to be stored, accessed, and shared — are the logical extension to the nonlinear online editing system, as well as the key to the concept of the digital facility. Plenty of manufacturers have shown their version of a media server at the last NAB, but post execs are still leery of the storage/price equation. NAB should show improvements on this score. Also missing has been a good way to manage the database, which could include 25 jobs for different clients, all at different stages of completion. SGI just leapt into the "asset management" fray with a March 4 announcement of its Studio Vault Visual Asset Management System for digital studios. Based on the Challenge server, the Studio Vault is intended to give users the ability to file, track and find huge numbers of frames, images, files or clips, as well as re-use existing material. The Developer's Kit will appear in Summer 1996; other Studio Vault products are expected by the end of this year.

If your feet can stand it, NAB '96 promises to provide a tantalizing update and intriguing view into the future of the digital facility. ☛

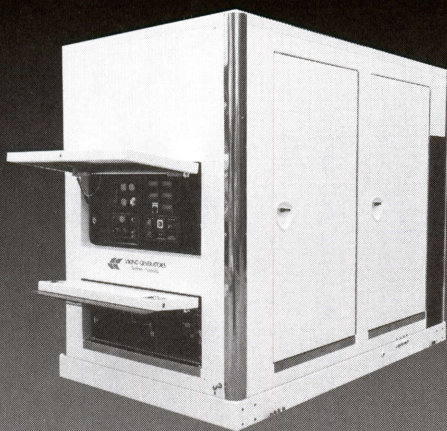
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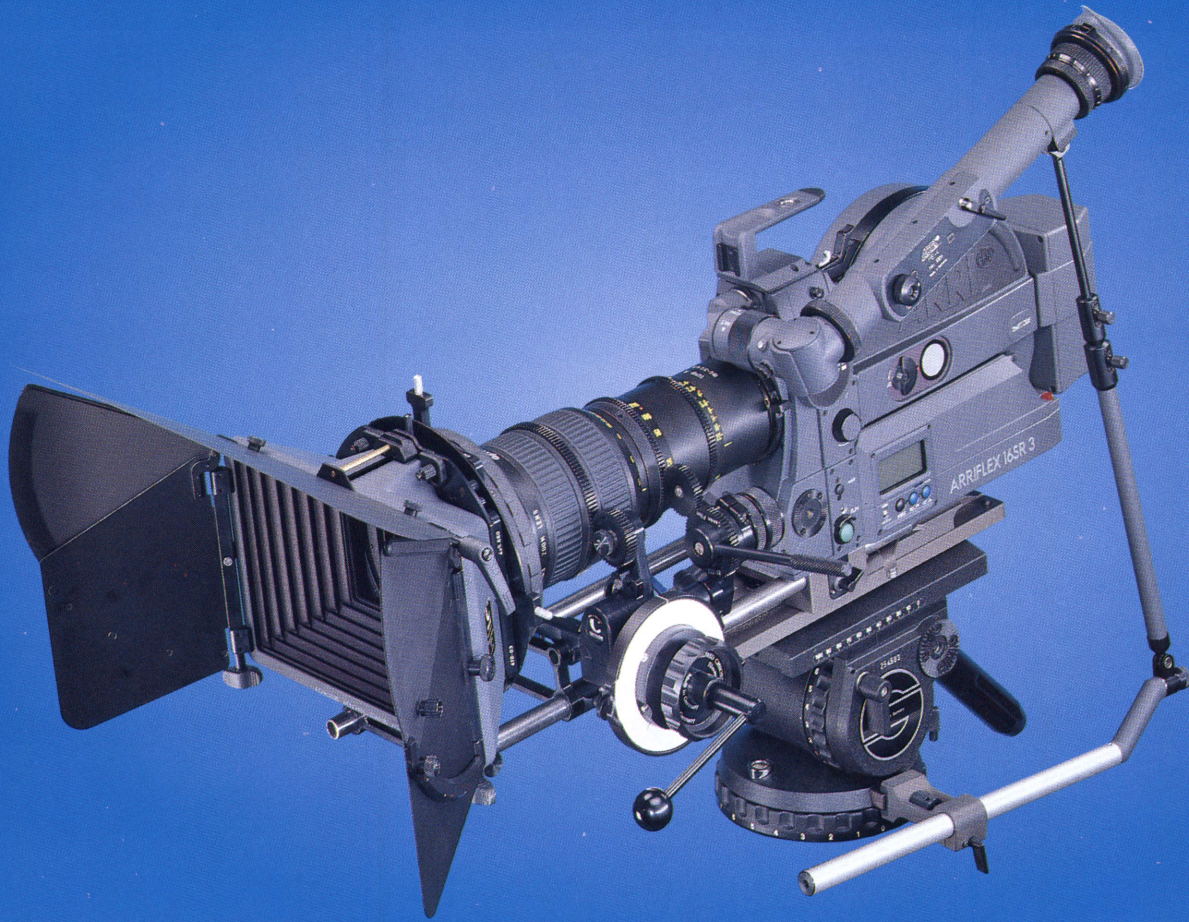


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Digital Age Update

compiled by Marji Rhea

Digital Domain Picks Up Partner

Cox Enterprises has become an equal partner with Digital Domain's founding partners, writer/director/producer James Cameron, four-time Academy Award-winning character and creature creator Stan Winston, chief executive Scott Ross and IBM. From its base of creating visual effects for feature films, TV commercials, theme park attractions and interactive entertainment, Digital Domain will now expand its interactive new media capabilities, as well as pursue future broadband cable delivery of digital interactive content.

Cox Enterprises' diversified media businesses include newspaper interactive online Internet sites, broadband two-way cable systems, and movie and television production.

Cox and Digital Domain will collaborate and consult on the development and distribution of new media through the rapidly emerging digital distribution channels. As the new digital distribution paradigm develops, Digital Domain, in cooperation with its technology partner, IBM, and its distribution and media partner, Cox, is ready to provide new products for the new channels. The Cox partnership allows Digital Domain to accelerate its schedule for investments in research and development, facilities, tools and personnel; continue building its New Media division; and expand its capacity to handle a larger slate of concurrent film and advertising projects.

The recently-formed New Media division is producing three CD-ROM titles for the 1996 interactive market. Digital Domain is producing "Barbie Fashion Designer," a co-venture with Mattel Toys unveiled at the American International Toy Fair in New York City.

The company is also working with IBM Multimedia Publishing Studio

on "Ted Shred" and "The Interactive Book of Virtues," based on the forthcoming PBS and Turner Home Entertainment series *Adventures from the Book of Virtues*, from William Bennett's *Book of Virtues*.

Digital Domain is also currently in production on *The Island of Dr. Moreau*, starring Marlon Brando and Val Kilmer and directed by John Frankenheimer, adding digital life to Stan Winston-designed characters; *Chain Reaction*, starring Keanu Reeves and Morgan Freeman; *The Fifth Element*, starring Bruce Willis; and James Cameron's *Titanic*. In late spring, Digital Domain's first filmed theme-park attraction, *Terminator 2-3D*, directed by Cameron and photographed by *True Lies* cameraman Russell Carpenter, ASC, will open at Universal Studios, Florida in Orlando.

Digital Domain, (310) 314-2981, Cox Enterprises, (404) 843-5123.

Artists' Rights Symposium

In a show of support for balanced debate, discussion and education, leaders in the digital technology field co-sponsored the Artists' Rights Foundation's Symposium, held on February 15 and 16 at the Directors Guild of America, and the John Huston Award for the Artists' Rights Dinner on February 16 at the Century Plaza Hotel. The Symposium, titled "The Death of Copyright and the Future of Imaging," chaired by Michael Backes, screenwriter (*Rising Sun*) and founder of Rocket Science Games, also featured demonstrations of the companies' new technology.

Returning as a sponsor for the second year, Sprint, together with Silicon Graphics, exhibited Sprint Drums, as well as a collaborative multi-media production tool. Sprint is at the forefront of image networking and is principally focused on enabling production collaboration in the virtual studio, providing online

desktop access to the highest quality imagery and allowing image library owners to control and manage the distribution of their assets.

Also returning for a second year, Tiffen displayed computer software with an audience-driven interactive focus at the event. Tiffen has established a new digital software division, which, through an agreement with Kodak and several other major research and development alliances, will make it possible to digitally re-create Tiffen filter effects in postproduction.

Symposium sponsor Digital Theater Systems, a leading supplier of digital sounds for movies, displayed a portable rack to demo the DTS unit, a monitor with the logo/trailer and company literature. Avid Technology displayed the Avid Film Composer, the first digital nonlinear editing system to provide digitizing, editing and playback of images at 24 frames per second.

Other sponsors were Eastman Kodak, Silicon Graphics Computer Systems, and Japanese-owned Bandai America, manufacturers of popular children's toys, including the Mighty Morphin Power Rangers. First-time participant Panavision was the sponsor of the Tribute Film to Martin Scorsese, this year's recipient of the John Huston Award.

Artists' Rights Foundation, (310) 289-5376.

Digital Media Merger

Scitex, an international company specializing in digital prepress and digital printing products, has acquired Abekas Video Systems and integrated that company together with ImMix, which Scitex purchased last year, to form Scitex Digital Video. The new Scitex venture will offer a comprehensive product line of digital nonlinear editing systems,

MOST SERVER TECHNOLOGIES CREATE ONE ISLAND AFTER ANOTHER.

MAY WE SUGGEST A BOAT?

Getting there, and getting back in one piece. That's the first issue you should settle if you're planning to visit the digital islands. But today's hot new server technologies have created a different reality. Beautiful islands, that prove to be difficult to access and integrate.

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We led the way with Serial Digital Interface, or SDI. The pipeline that became the SMPTE 259M standard, serving as the backbone of many of today's TV stations and production facilities. SDI handles studio 4:2:2 component digital video signals, composite video, even digital audio. SDI is a standard with proven success. To reach the new digital islands, we propose to build a boat that builds on that success.

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The SDDI network maintains the full integrity of video and audio compressed bitstreams required for demand-

ing operations such as real-time editing, special effects, and all other necessary steps in production and post-production.

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route to link digital servers and non-linear editing systems with speeds faster than real time.

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DVEs, production switchers, character and graphics generators, and digital disk recorders.

Scitex Digital Video's research and development plans are for products that marry the flexibility and cost-effectiveness of personal computers with the speed and processing power of traditional video equipment.

Scitex Digital Video, (410) 783-0600.

Super Bowl Halftime Short

Infinite Image's Ron Fenster used the ElectricImage Animation System to create a short animated piece, "From Out of the West," that aired before the Super Bowl half-time show. The project related the history of Tempe, Arizona, home of the Sun Devil Stadium, and depicted the Super Bowl players in the land of Cowboys and Indians. Combining footage of the old West composited with images of the finalist athletes, the short piece was created in seven weeks on Power Macintosh 8500s using ElectricImage, Adobe After Effects, form •Z, and Elastic Reality, and was edited on a Media 100.

Ron has produced three other Super Bowl spots in the past using other animation packages, among them Wavefront and Vertigo.

Infinite Image, (305) 927-0803; ElectricImage, Inc., 117 East Colorado Blvd., Suite 300, Pasadena, CA 91105, (818) 577-1627, FAX (818) 577-2426.

New Digital Post Facility

National Video Center has opened an all-digital video and audio postproduction facility, National/Westport, in Westport, Connecticut. The all-digital infrastructure is the spine of National's media-independent facility, a production center flexible enough to take an idea from concept to completion in all media. A producer will be able to develop and package content for delivery in any or all forms of electronic media.

National/Westport, 1200 Post Road East, Westport, CT 06880 (203) 454-1100.

Super Bowl Equipment Suppliers

Duke City Studio supplied ESPN Sports Center with edit bays, a Chyron Codi Telestrator and HMI lighting

for their Super Bowl-edition program. The bays consisted of Sony Edit Controllers, Grass Valley 110 switchers, Sony MXP 290 audio mixers with BVW-75 BetacamSP VTRs.

NBC Sports also turned to Duke City for specialty items such as a Quantel Paintbox Express for analysis and commentary. To allow their camera the optimum range of possibilities, Duke City provided Canon's new Digi-Super 70, a PJ70x9.5 lens that is the industry's widest angle and longest combination of glass. NBC also used the lens for all of their playoff coverage. The company modified the lens to allow it to be mounted on their Ikegami HK-355 studio cameras, as well as any configuration of studio, EFP or ENG camera.

XXAS TV 5 out of Fort Worth/Dallas brought the event back home with the aid of Duke City's Sony BVW 400 cameras with TelePrompter and Betacam SP editing packages.

Duke City Studio, (505) 884-5151.

NBC, Olympics Opt for Panasonic and Egriment

Matsushita Electric Industrial, parent company of Panasonic Broadcast & Television Systems, will supply NBC with equipment to meet the network's extensive video production and acquisition needs for the 1996 Atlanta Summer Olympic Games. The Panasonic D-3 digital composite format will serve as NBC's main recording format, and the Panasonic D-5 digital component format will be the medium for graphics creation and storage for the Games.

NBC used the D-3 format very successfully to produce the 1992 Summer Games in Barcelona. In Atlanta, D-3 will again be NBC's workhorse production format, and now D-5 will play an integral role in the broadcast.

For editing and recording, NBC will use 223 D-3 VTRs (140 of those units will be the new, smaller AJ-D360 D-3 VTR); 31 AJ-D580 D-5 VTRs; 16 LQ-D5500 re-recordable digital optical disc recorder/players; and MII format VTRs and S-VHS recorders and players.

For acquisition for the studio, field, graphics and production, NBC will use 19 AJ-D300 D-3 one-piece camcorders (a new lighter, lower-power D-3 camcorder); eight AQ-23W 16:9/4:3 switchable digital signal processing

camera systems in studio and EFP configurations (this camera makes its debut at the Summer Games); and other three-chip digital signal processing color cameras.

The Centennial Olympic Games in Atlanta will mark the third consecutive Olympics during which NBC has relied on Panasonic for its primary source of broadcast video equipment, starting with the original MII format a decade ago.

The Atlanta Committee for the Olympic Games has selected Egriment to supply camera supporting equipment for all television coverage. Egriment will supply remote-controlled camera heads, camera cranes, and camera support rigs for the television coverage of the July and August events.

Egriment's lineup for Atlanta includes the well-known Hot-Head; the Hot-Shot (an offshoot of the Hot-Head which is designed for use with television cameras); the Minishot (a smaller camera designed for use with the latest three-chip cameras and zoom lenses); the Microshot (the world's smallest professional remote head, designed for use with tiny "lipstick" cameras on such events as horse jumping, the pole vaulting and basketball); the Javelin Crane (a remote crane which can "soar" the camera from below ground to ten meters); the Super Maxi-Jib (a crane with a small "footprint," ideal for events such as the marathon, cycling and walking); the Hi-Lo Platform (an adjustable platform designed to work on both unstable terrain or stadium terracing); and the Sports Dolly (a new ground-level camera platform fitted with two wheels that allow it to be rolled into position regardless of the ground surface).

This is the ninth time that Egriment has been involved in the Olympic Games. They've also been suppliers to the 1994 World Cup Soccer games in the U.S., the World Skiing Championships in Norway, the Super Bowl, the European Football Championships in the U.K. and the Asian Games in Thailand.

A service center will be set up in Atlanta for the Games to help coordinate the tons of equipment, including more than 165 remote heads, 20 camera cranes, and 25 miles of cable.

Panasonic Broadcast & Television Systems Company, One Panasonic Way, Secaucus, NJ 07094, (201) 392-

Congratulations to Director Mike Figgis on the Oscar Nominations for

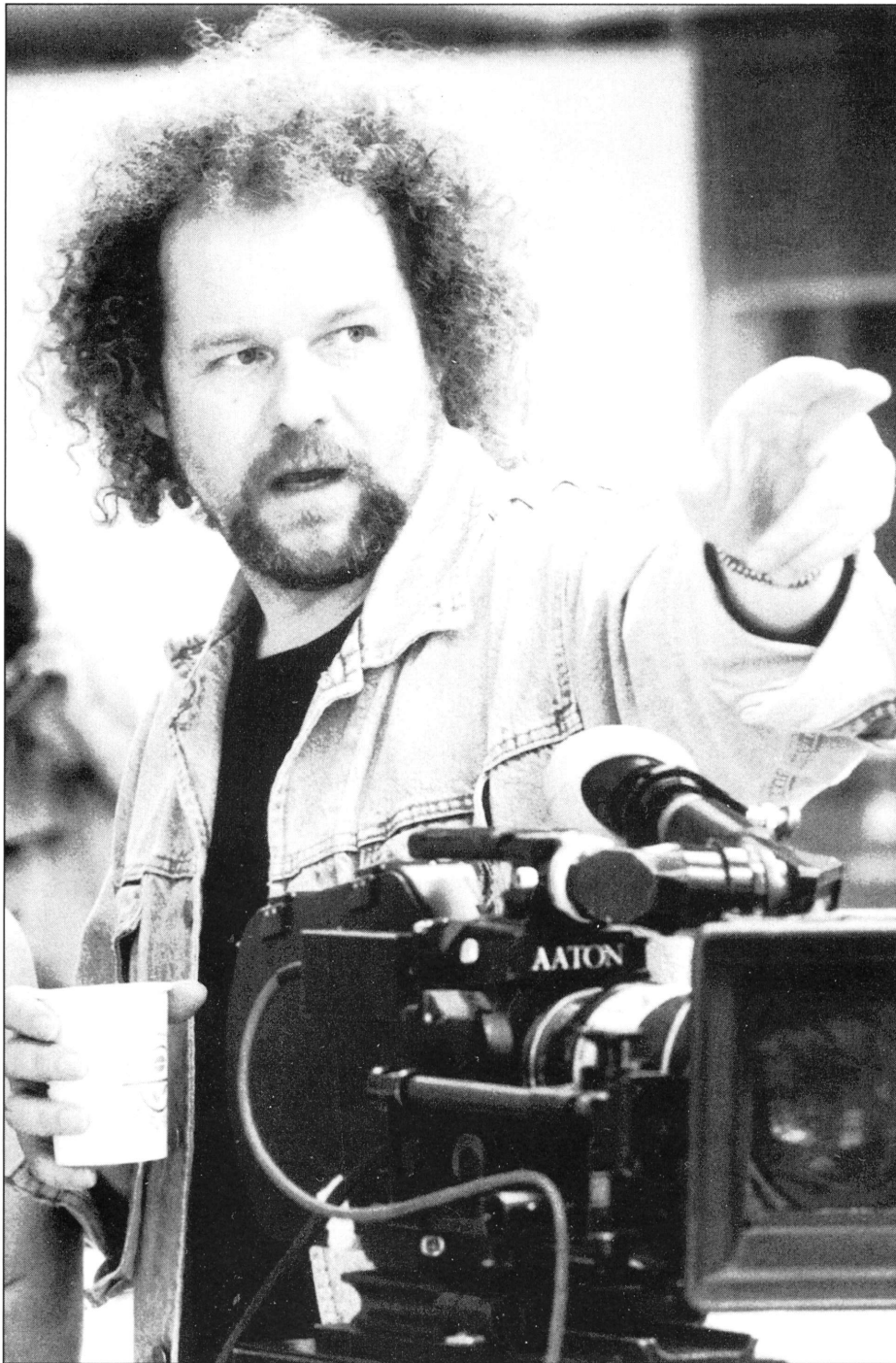


Photo: Suzanne Hanover

Mike Figgis on set with the Aaton XTRprod.

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Pepsi's Super Bowl Commercial

Millions of Super Bowl XXX fans became the largest audience ever to view a digitally inked-and-painted commercial when Warner Bros. Classic Animation teamed with USAnimation, BBDO, Pytka Productions and Quiet Man/New York on a 60-second Pepsi spot. Warner Bros. Classic Animation produced the animation for the spot, which featured live-action video of Deion Sanders (as the Road Runner) being hunted by an animated Wile E. Coyote.

Starting with Warner Bros. drawings, USAnimation, using their proprietary USAnimation System, had a five-day turnaround time for ink and paint. The company was also responsible for providing character shots composited with effects and separate character elements for use in the final composite.

The system's high rendering speed and ability to render and view effects in real time made last-minute changes possible, and also optimized interaction with the art director to easily adjust subtle tones and highlights, used in this commercial to match those of the live-action video.

The spot required adding critical animation effects like shading tones and lighting highlights to make Wile E.'s appearance more natural when integrated with the live-action video. Smoke transparencies and animated fire effects were also created on the USAnimation System, adding to the illusion of the characters' blazing speed. After Mr. Coyote was successfully inked and painted, the work was sent to Quiet Man/New York for final compositing.

USAnimation, 818 N. La Brea Ave., Hollywood, CA 90038, (213) 465-2200, FAX (213) 465-2800, (800) 996-6648.

Animation Work Has Madonna Aflutter

Image Savant's Richard "Doc" Baily, a veteran computer graphics animator, recently spent five months working on Madonna's "Bedtime Stories" video, developing and detailing a lifelike sunflower and swarms of fireflies to place behind her.

In order to create special tension and give the whole piece a feeling of depth, he divided the flower's seed puff and petals into several overlapping foreground and background layers, allowing composition artist Ashley Clemens to give each layer a different amount of blur in order to simulate a lens' depth of focus. As an added touch, the amount of blur was constantly changing, yielding an effect similar to gently racking focus on a camera.

Madonna's bluescreen was shot with a slow, randomly drifting camera motion, requiring the position of the sunflower to compensate for this movement. The bluescreen area was fitted with a series of miniature Christmas light rigs designed by effects supervisors Mike Fink and Kevin Haug. Baily wrote programs on the SGI to isolate these white lights, enabling him to track their positions and translate their movement into his virtual camera.

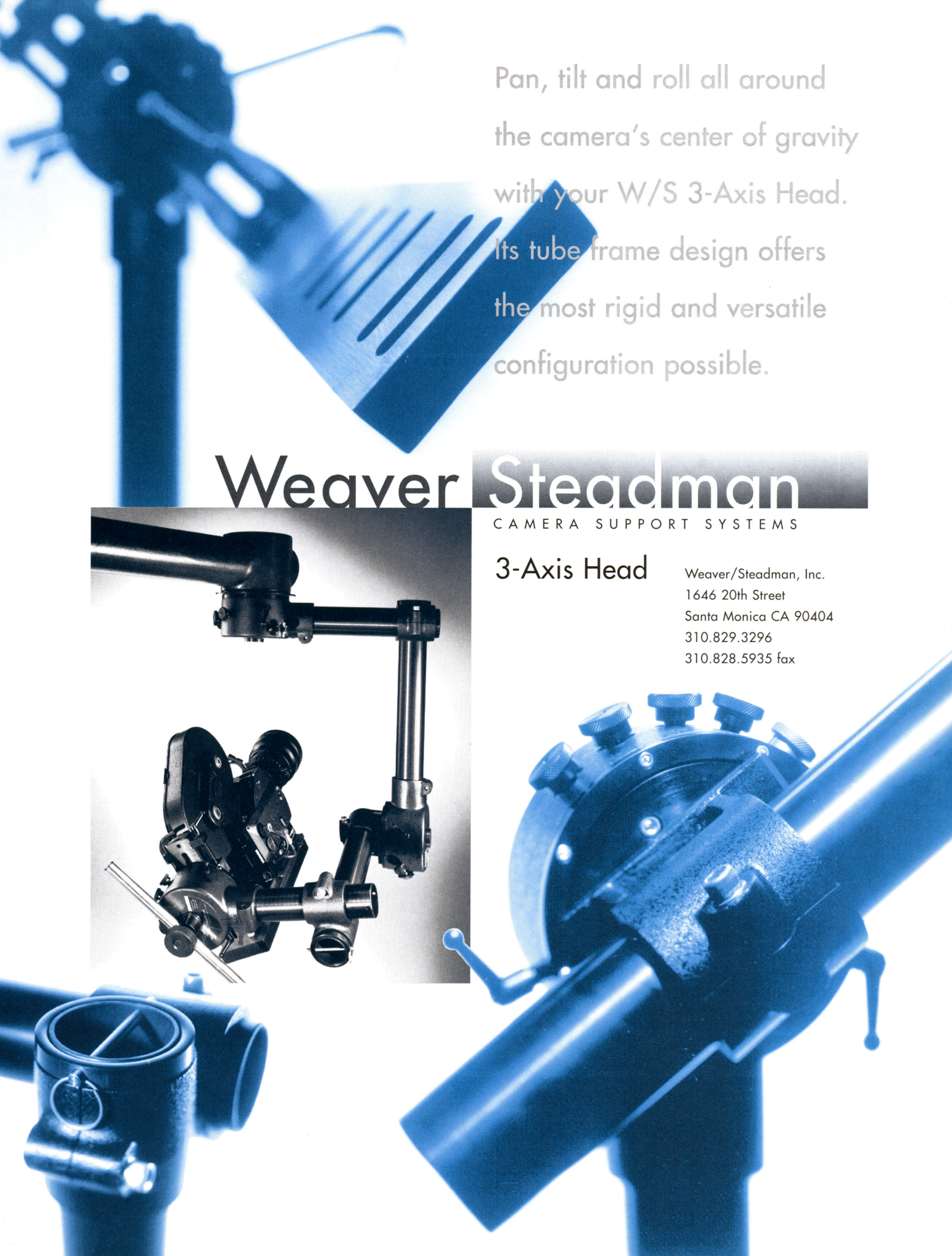
For a recent spot for BMW, Baily used Wavefront's Dynamation to create animation to depict the BMW "spirit" rising to join a new breed of cars. Other work on a Suzuki ad involved the creation of an undulating, floating road against a desert backdrop. "We felt that there was no commercially available software that would help us properly accomplish this distortion effect," said Baily, "so Planet Blue's Maury Rosenfeld and I wrote several programs together that we used to warp the road object. They relied heavily on trigonometry functions that were learned back in high school. I was surprised by how realistic the motion looked."

Image Savant, (213) 465-6364, FAX (213) 465-6333.

Canadian Series Shot on Digital Betacam

A new CBC television comedy series, *Dead Woman Kept 73 Cats*, is the first in Canada to shoot entirely with Digital Betacams. Set in a TV news room, the weekly half-hour series is shot by award-winning cinematographer Joan Hutton, CSC (*Ms. Conceptions*, *Married Life*), one of Canada's first woman cinematographers and currently the president of the Canadian Society of Cinematographers.

"It's exciting to work on the cutting edge of a new technology," said Hutton. "The handheld cameras give the



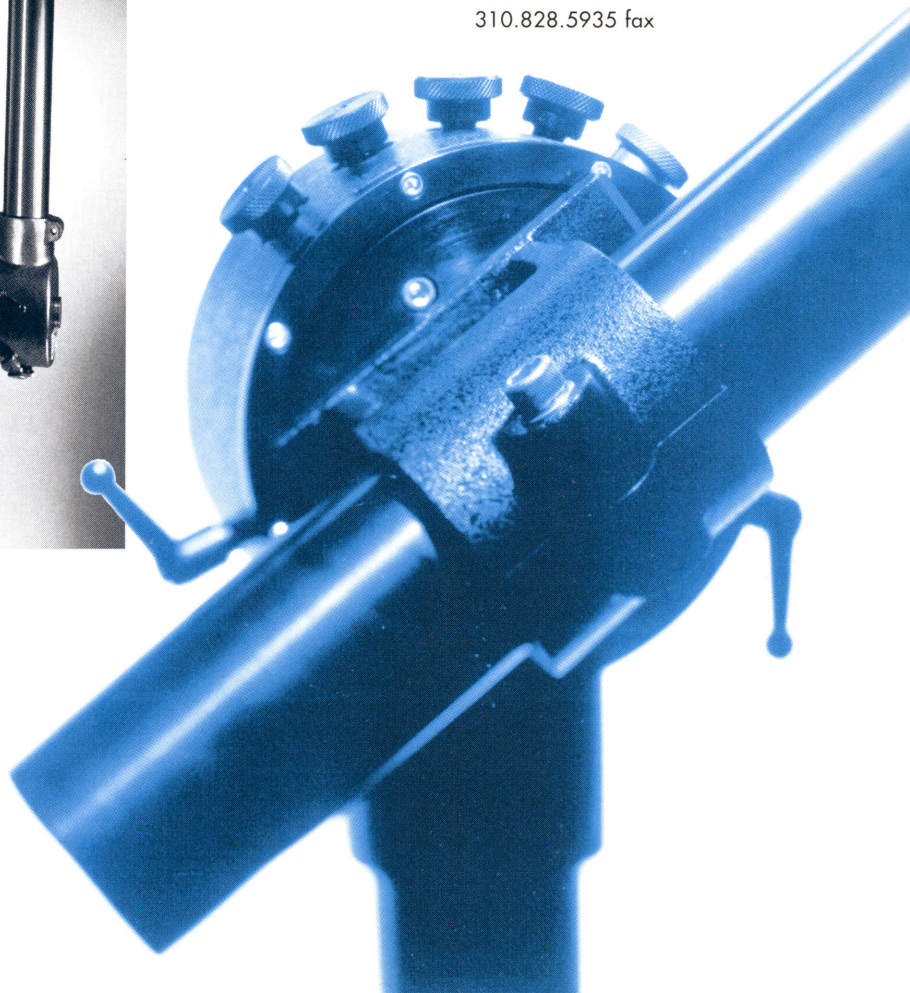
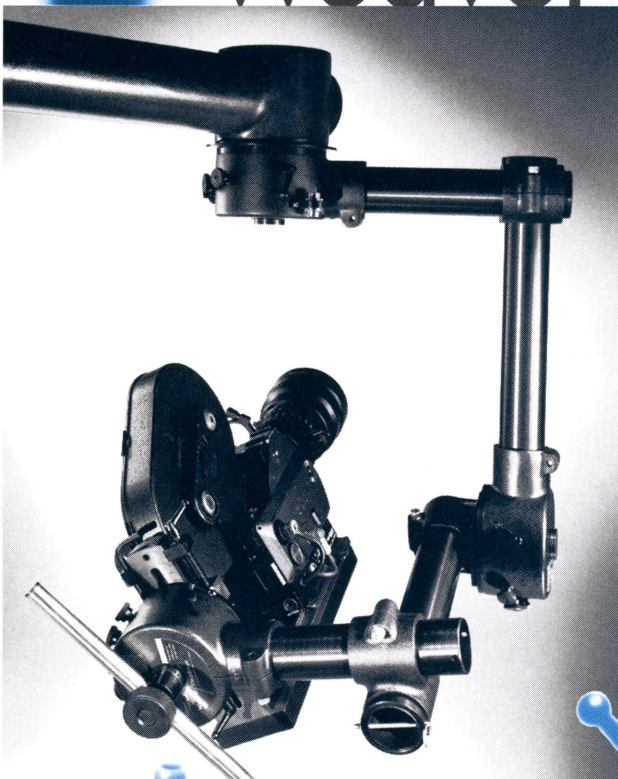
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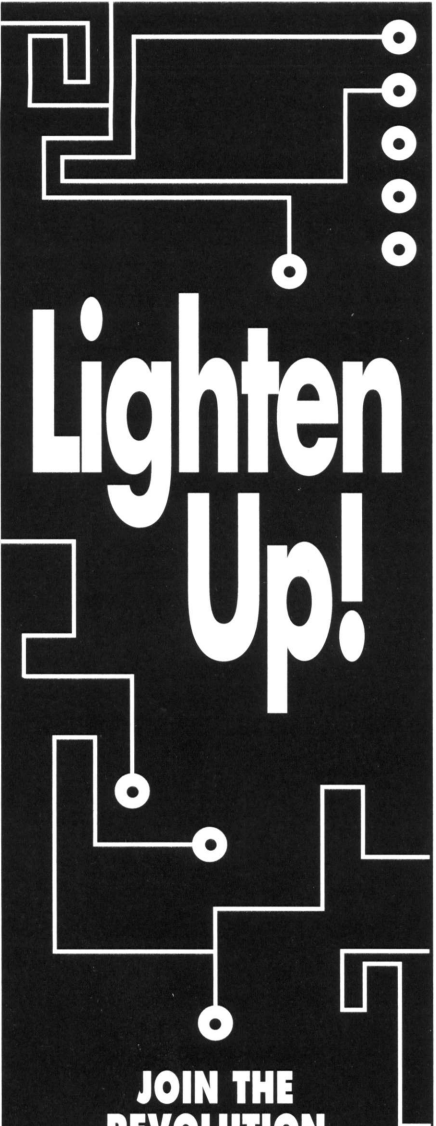
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series the documentary feel we're looking for, and the Digital Betacams really approach the look of film. It's a question of learning the parameters of the format as we shoot, and so far it has been very impressive."

Sim Video, Canada's largest rental facility, is supplying two Sony DVW-700 cameras and technical support for the project. The DVW-700 is a one-piece, digital processing camera that records 10-bit 4:2:2 component digital video. The series will be edited on one of CBC's Digital Betacam online suites, allowing first-generation quality to be maintained from shoot through editing to transmission.

"The pictures from the Digital Betacam have far exceeded our expectations," says CBC technical producer Jake Werner. "The picture quality is more like film than video. The control over the image we have with this camera makes conventional filters and color correction unnecessary."

Written and directed by Ken Finkleman (*Married Life*), *Dead Woman Kept 73 Cats* is being taped in the Canadian Broadcasting Centre's Studio 62 in Toronto, and will be aired in the fall.

CBC Television, (416) 205-3977.

CGI Gives Life to Potato Chips

Encore Visual Effects recently took on the CGI animation for a new spot for Wise potato chips. The storyboards from creative director Don Klein called for the bag of chips to teasingly beckon to a group of young people stopping at a convenience store for snacks. As a young lady passes by, the Wise potato chip bag, twisting on the shelf, catches her eye. As the bag rapidly grows in size, she looks on in amazement, then signals her friends. When she opens the bag, the words "Big Flavor" leap out and fly around the store, and the friends drive off in their Mustang convertible with the now-oversized bag perched happily in the back seat.

"You can get a car to talk or make a gas pump dance and people will buy it because they're not expecting it to be real," explains Klein. "But we had to make these potato chip bags look real and believable."

Encore's senior effects designer Mark Kochinski and his team

found that by limiting the range of motion in the bag, they could avoid a rubbery, wrinkled look while preserving the frisky character of the bag. Once the movements were worked out, they scanned in the bag from flat art to use as texture mapping over the wire frame.

AFI/Filmworks shot the live-action sequences in Florida under the direction of Barry Dukoff. Encore sent along Michael Taylor, visual effects supervisor, to provide the production team with technical expertise in setting up the sequences. Dukoff blocked out the live action as Taylor carefully plotted each angle and focal length to guarantee a perfect match for the foreground 3-D animation.

Encore telecined the live-action sequences using their patented EPR (electronic pin registration) system, which pin registers in real time as opposed to the frame-by-frame method of mechanical registration. The background plates were then put into the CGI platforms as a reference for the animation.

Henry artists Gerta Lind added highlights and shadows to the finished animation to complete the illusion. Foreground and background plates were then recomposited in the Henry, and the humor was accentuated by the efforts of Filmcore editor Steve McCoy.

Encore Video, 6344 Fountain Ave., Hollywood, CA 90028, (213) 466-7663.

Film Treatment for Video Production

Metropolis Studios' Metro-Film, a digital technique for converting video recordings to a "film/telecine image," achieves the appearance of 35mm or 16mm color negative telecine-to-tape transfer, making it ideal for sitcoms, commercials, industrials, music videos or any look where a cine look is desired.

The process simulates the film transfer characteristics of color negative film while preserving the full dynamic range of the original video recording. This new process allows for any visuals such as animation, graphics and titles in the original master videotape to be simultaneously converted to the Metro-Film telecine look.

Since all 30 frames of video are interpolated and retained during the transformation process, the con-

THROUGH THE EYES OF RON GARCIA, ASC

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Ron Garcia has worked as cinematographer on numerous television projects and feature films—including *Disorganized Crime*, *Storyville*, and *Twin Peaks: Firewalk With Me*.

Photo: Michael Bulbenko. Film: Fuji Professional Neopan 400

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lights—yet the lead's skin tones had to look perfectly natural throughout.

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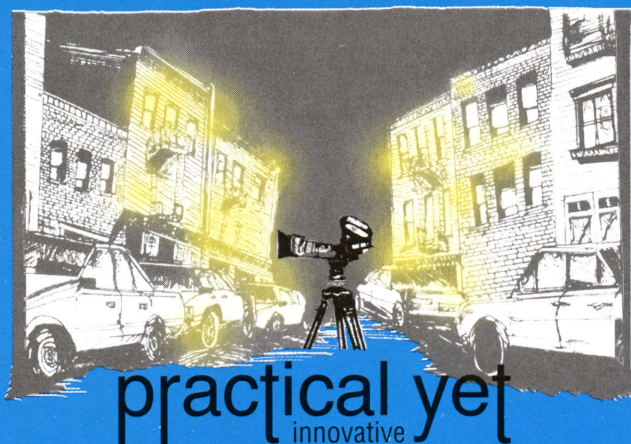
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version emulates a 24-frame telecine image. This is accomplished by simulating the transfer characteristics of the telecine system without losing image detail. The process does not cause video noise or motion jitter.

Over the years, producers and syndicators have found previous conversion processes lacking because there has always been certain irritating artifacts resulting in an unconvincing telecine conversion. Additionally, postproduction is complicated by the requirement that graphics, animation, and titling be overlaid as a secondary process in order to avoid undesirable effects.

Producers who have seen demonstrations of Metro-Film have commented that the conversion resembles exposed film. In addition, the motion portrayal of the conversion perfectly emulates the motion record of the telecine three/two pull-down or projected film.

Previously-produced videotape masters can be convincingly converted to the Metro-Film process. For optimum results, producers should utilize Metropolis' digital 601 capabilities. The facility employs the Philips/BTS LDK-10 production cameras which have 1,000 pixels per line, equivalent to 800 TV lines and a dynamic range of 600:1. The digital component recording facility has two fully-equipped sound stages, the only facility of its kind in the country.

Metropolis Studios, (212) 722-5500, FAX (212) 722-7341, rmn@metropolis-studios.com.

Made-on-a-PC Movie

Just a few months after the release of *Toy Story*, the world's first feature-length movie made entirely on a computer, comes the release of *Generation War: Near Dead*, one of the first feature-length movies made entirely on a personal computer.

Two years in the making, *Generation War: Near Dead* has the latest in computer-generated special effects, including all-digital sets such as those in *Toy Story*; virtual stunt doubles à la *Judge Dredd* and *Terminator 2: Judgment Day*; and matched moves like those seen in *Forrest Gump*.

The release illustrates the increasing pace of change as the computer industry collides with the entertainment industry. "Nearly every special effect in



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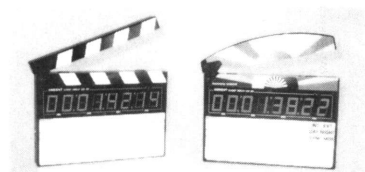
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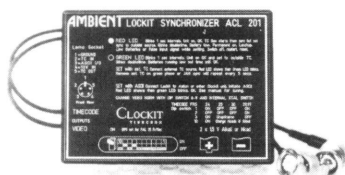
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Hollywood's bag of tricks is now achievable on a personal computer, and *Generation War* has them," says Phil Flora, the film's writer/director. "People will be watching on 486's and Pentiums, exactly the same kind of computers it was produced on."

More than 40 sets were created using the latest in digital 3-D modeling and animation software for the PC. One set, the fictional city of New Washington, has nearly one million polygons, more than most of the *Toy Story* sets. "It took ten minutes on the Pentium to render a single frame," Flora recalls.

Live actors were shot against a screen and immediately digitized to the hard drive. "We never even needed videotape; the signal went directly from the camera into the computer for compositing onto the digital sets," Flora says. "We started modeling on a couple of 486's and later added a Pentium for rendering. Also, some of our artists helped out on their home computers."

The action takes place in the year 2025 in an America where the government has gone bust. The major players in the world information economy have left the country and moved to the hundreds of new "Data Havens" that have sprung up in small countries and at sea. America is left with few jobs and a huge number of elderly citizens to support. The system is kept going only by forcing young people to serve seven years of unpaid mandatory national service. As a generation war is breaking out, a Youth Control patrol picks up a Delink — a National Service slacker — and takes her to the high-security Federal Medical Research Center, where rumor has it that some highly unethical activities have been taking place.

Including the actors, more than 50 people worked on the project. "It took lots and lots of time," says Flora. "When we started, none of the software tools really worked quite right. But as we went along, things got better and better. Today, some talented film students could get together and produce a complicated Hollywood-style special-effects movie."

Generation War: Near Dead is available on CD-ROM; the movie will play on any 486 or better computer running either Windows 3.1 or 95. The movie is in the standard Microsoft Video for Windows format, which is already installed on most new computers. A copy

of Video for Windows is also included on the CD-ROM.

Phil Flora, (500) 44-MOVIE, (540) 776-0187, philflora@aol.com, <http://www.webmovie.com>.

Ballhaus to Teach in Germany

A two-year long cinematography course offered by Aufbaustudium Film at the University of Hamburg has been immeasurably broadened by the addition of Michael Ballhaus, ASC to its teaching staff. An advisor to the school since 1988, Ballhaus, who was convinced by his own experiences throughout Europe and the U.S. that the current German film culture could be best improved through the cooperation of outside professionals, convinced Sony of Germany to support the program. The main thrust of his curriculum will focus on teaching the use of camera as an instrument for the students' creative contributions to dramatic narrative filmmaking.

Ballhaus states, "The four most important positions in the regard to the production of movies are the screenwriter, director, producer and cinematographer. The film school here only offered courses for directors and screenwriters, so two very important elements were missing. Only through cooperation by all the players is it possible to convey a practical view of the reality [of the film industry]. On the one hand, this small group [of students] has great advantages because of the intense attention given to them in Hamburg. But on the other hand it is desirable to add the crafts of cinematography and producing for a more intense practical [learning experience]. I feel very close to the school, especially to [manager] Hark Bohm, and I consider Hamburg to be one of the most intense film schools in Germany."

Applicants for the course should have a basic cinematography knowledge in addition to a college degree, though outstanding talent or experience will also be a factor in the selection process. The deadline for applications is April 19th, 1996, while an entry exam will take place on the 6th and 7th of May.

Aufbaustudium Film, Institut für Theatre, Musiktheatre und Film der Universität Hamburg, Friedensallee 9, 22765 Hamburg, Germany 040-4123-4143, FAX 040-4123-4168

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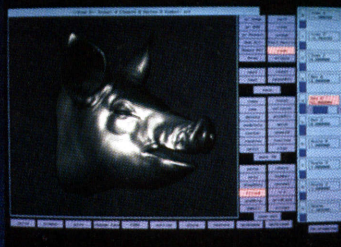
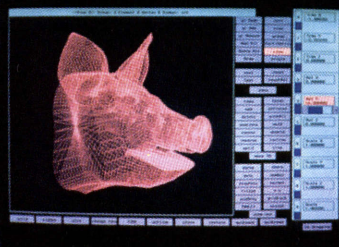
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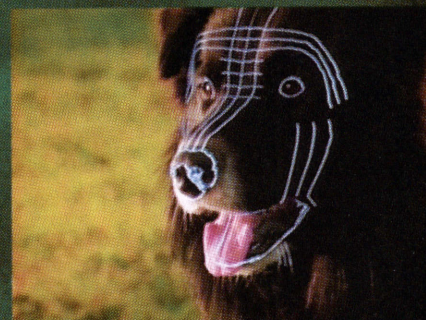
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Lean and Mean

Thinner, Stephen King's thriller about the ultimate crash diet, is fleshed out for the screen by director Tom Holland and cinematographer Kees Van Oostrum, ASC.

by Frederick C. Szebin

FILMING STEPHEN KING NOVELS HAS been a somewhat hazardous pastime for Hollywood. The very best film versions of his works — *Carrie*, *The Shining*, *Stand By Me*, *Misery* — are often overshadowed by the puddles of indifference left by other, less successful screen ventures. More often, television has given the author a visual outlet that pleases his fans and himself; successful small-screen adaptations have included *It*, *Tommyknockers* and *The Stand*.

In an attempt to turn this trend around, director Tom Holland and cinematographer Kees Van Oostrum, ASC offer a big-screen version of *Thinner*, one of King's best literary endeavors. The story was the last of the writer's

novels to be published under his Richard Bachman *nom de plume*. With rumors mounting as to the actual identity of Bachman, King finally admitted to the deed, publicly stating that Bachman had suddenly passed away from "cancer of the pseudonym." Under King's own name, sales of the book jumped and the inevitable movie deal followed.

The film stars Robert John Burke of *Robocop 3* as the recipient of a nasty curse, with Joe Mantegna (*Searching for Bobby Fischer*), Lucinda Jenny (*Thelma and Louise*) and Michael Constantine (*My Life*) involved in the chilling events. Three-hundred-pound Connecticut lawyer Billy Halleck accidentally runs down a gypsy woman,

and the whole matter is hushed up by the local judge and sheriff. As he's leaving the courthouse, Billy is confronted by the gypsy's tribal king, Tadzu Lempke, who strokes the portly advocate's cheek and utters a single word: "Thinner."

Billy soon begins losing weight at an incredible speed. No doctor can help him, and even his family doubts his sanity when Billy begins talking of gypsy curses. Billy's only recourse is to track the tribe down and have Lempke remove the curse. When he reaches a weight of 115, he calls former client and mafia hood Richard Ginelli, who offers to help Billy "convince" Lempke to lift the curse.

In 1982, King's first director-for-the screen work found a cin-

Netted from above, actor Robert John Burke portrays cumbersome counselor Billy Halleck. The extensive "fat" makeup demanded a lengthy application process, allowing only five shooting hours a day. Van Oostrum utilized wide-angle lenses to add optical girth to the character.



Photos by Bruce Birmelin, courtesy of Paramount Pictures.

ematic home in Pittsburgh, Pennsylvania, when filmmaker George A. Romero and executive producer Richard P. Rubinstein joined the author to make the horror anthology *Creepshow*—welcoming him into their homegrown horror factory, Laurel Entertainment. The company has since become known as New Amsterdam, but continues its faithful adaptations of King's work, with the author in attendance as his schedule permits.

Thinner director Holland is following up his work on King's *The Langoliers*, adding another thriller to a resumé that includes the features *Fright Night* and *Child's Play*. "I got attached to the project in 1989 when it was set up at Warner Bros.," Holland explains. "The project went into turnaround at that studio, but I stayed with it."

Screenwriter Michael McDowell, who wrote *Beetlejuice* and *The Nightmare Before Christmas*, had a first draft that Holland rewrote over the next five years. When production finally became a reality at Paramount through Spelling Films, Holland chose Van Oostrum as his director of photography based solely on what he had seen of the cinematographer's previous work. "I liked *Gettysburg*," says Holland. "I needed somebody who was very good at lighting, and who also could be quick. I did very few takes, but a lot of setups."

An Amsterdam native who came to the U.S. in 1989, Van Oostrum studied at the American Film Institute and has served as director of photography on such television productions as *Never Forget* (starring Leonard Nimoy), *Son of the Morning Star* (Parts I and II), *The Karen Carpenter Story*, and *Miss Rose White*, for which he received an Emmy nomination. He earned an ASC Award for his work on the mini-series *Return to Lonesome Dove* and an ASC nomination for the mini-series *Burden of Proof*. Re-



cently, Van Oostrum crossed over to directing with the WWII drama *Bitter Herbs*.

The cameraman was initially familiar with other King works, but not *Thinner*. His introduction to that story came during his first meeting with Holland. "Tom explained the gist of the story," says Van Oostrum, "and I was very interested in how we were going to achieve it. When he discussed the procedure of a 300-pound man dwindling to 80 pounds, I first thought of doing it digitally. Tom said that they also had considered computer effects, but he wanted to do it with appliance makeup because he felt more in touch with the actor that way."

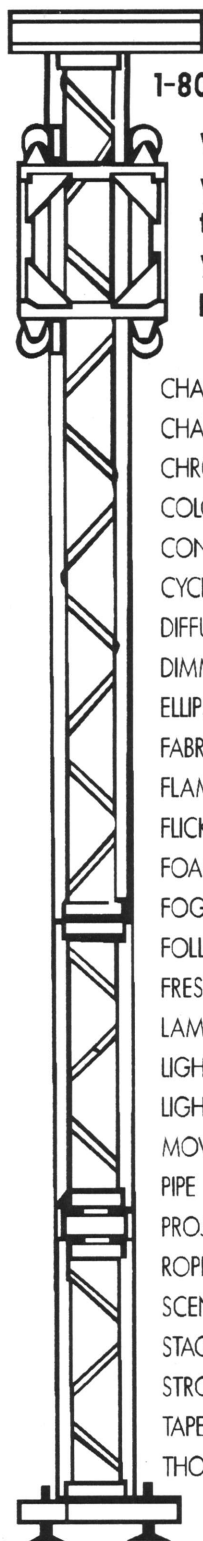
Makeup artist Greg Cannom, who had received Academy Awards for his work in *Mrs.*

Doubtfire and *Bram Stoker's Dracula*, was brought onto the project, and he and Van Oostrum began doing tests of "fat" makeup for actor Robert John Burke. Ten stages of weight change were designed by Cannom and his crew to fit onto the 175-pound Burke, who appears in some sort of makeup for 95% of the film. Costume designer Ha Nguyen created suits that used belly pads to increase and decrease the actor's waist size from 52" to 36". A "cool vest" sent cold water through tubes built into the costume to keep the actor comfortable during shooting.

About 90% of the film was shot in continuity over 60 five-hour days, with Holland and Van Oostrum handling 20 to 25 setups each day. The production's two-month prep time gave Cannom and Van Oostrum the chance to test the makeup for only the heaviest weight stage before *Thinner* began filming in Camden and Rockport, Maine from August to November.

"Greg and I worked a bit together in the beginning on trying to find a photographic style that would work," says Van Oostrum. "Greg explained that normally, we'd use a little bit of diffusion to hide seams and the fact that this is makeup, but in *Thinner* we got away with very little diffusion because the makeup was so good. I

Above: Suffering under a gypsy curse, Halleck melts away to a frightful 80 lbs. — demanding Greg Cannom's makeup to conceal Burke's actual weight of over twice that. Van Oostrum (at left holding viewfinder, with director Tom Holland) found the heavy prosthetics troublesome to light, but devised a strategy partly based on tests done with Cannom during preproduction.



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did use some sheens on the face, but that's about it. I think *Thinner* is a great combination of makeup and lighting."

Before shooting began, Van Oostrum and Holland had a brief getting-to-know-each-other session in Maine to plan their strategy "Tom is not necessarily a director who comes in with an ironclad idea," Van Oostrum continues, "but he has a very good sense of the story. During our first days in Maine, we wandered around Camden. I came out fairly early on to pre-scout locations. Tom and I just talked our way into the story, more or less. He had certain ideas, but sometimes I disapproved of those because I didn't think they were visually as good as they could be in that particular locale. That's a good process by which to get to know each other, because you bring up the pros and cons of something. I might comment on a visual aspect of the story, and Tom would agree with me unless it started to interfere with the storytelling, or when it didn't make sense to him. Then we would discuss it. That was the way we went through the whole picture."

What made the production of *Thinner* so problematic, and gave the filmmakers only five hours per day of actual shooting time, was a shooting schedule that had prosthetic appliances being delivered the day they were to be shot, as well as the amazingly short lifespan of latex makeup.

"One thing I discovered that I really had to be careful of was what type of lighting we put on the appliance makeup," Van Oostrum recalls. "Certain light sources — fluorescent lights, for instance — have a higher appearance of ultraviolet light. The UV light reacts very differently on appliance makeup than it does on real skin. If you work with the two elements in a face, when you get the film back you'll see a difference in color that you wouldn't ordinarily see with the naked eye. Exteriors were more difficult, and I had to watch out a little bit during exterior shots for top light, especially on overcast days, because you can get a difference in color between the latex-covered parts of the face and the forehead

and nose, which weren't covered.

"You also have to be careful when other actors without appliances are in the scene at the same time, because the color balance can be thrown off, especially when they're sitting next to each other," he continues. "Fortunately, Joe Mantegna was the actor who was most often close to Bobby, and he has a very dark skin tone. At least in that case there is an acceptable difference. But real skin next to the appliance at times became a giveaway. When we were blocking scenes, we had to keep that in mind."

Another problem in working with appliances is the fact that they're in good shape for only about two hours after application before the glue starts falling apart. Seams become visible, then small pieces come loose, and after a couple of hours, the filmmakers could do only wide shots before the makeup was too far gone.

"I don't think there was a day on this shoot when Bobby Burke wasn't in some kind of makeup," says Van Oostrum. "That meant a four- or five-hour makeup job in the morning, and then we had maybe about four or five hours with him before the makeup started to disintegrate."

Van Oostrum used a Panavision camera package to photograph *Thinner*, and Kodak's 5248, 93 and 96 film stocks were behind the wide-angle lenses that enhanced Billy Halleck's body size. Both Van Oostrum and Holland cite the work of gaffer Mike Moyer, key grip Mike Krevitz and first assistant cameraman Nino Panzini as being crucial to the production's ultimate success.

As the story progresses, the film's tone changes as Halleck gets deeper into the curse.

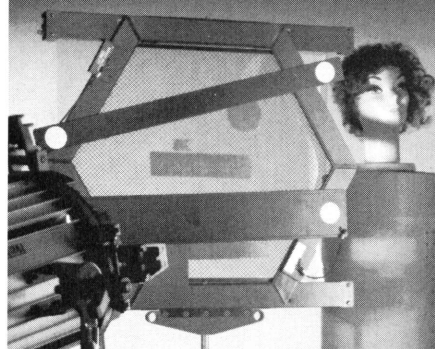
"When we started the film," says Van Oostrum, "Tom and I always intended to open it as cheery and to become darker, more sinister, as Billy Halleck moves into the dark side of life — seedy motel rooms, that sort of thing. The gypsy camp was always shot at night, lit with fires; it has a very lyrical quality to it. As Halleck got thinner, and the movie focused more on his character, we stayed away from the wider angles. I tried to do anything I could to help the illusion.



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"I don't particularly like HMI lights," he continues, "so I stayed away from them and worked a lot with tungsten Pars, specifically Wendy lights. The Wendy is a big light originally built by David Watkins as a night source; it contains about 180 Par 64 lights. I also use it as a day source through windows because it gives me a real strong, very nice, slightly warmer light, or cooler if you gel it. Most of our day stuff, even interiors where you might normally use HMIs, were shot with tungsten, which gave us a better control over the mood of the room."

The production purposefully stayed away from CGI and any other optical trickery, although Van Oostrum did have an early idea of how to visually present the story that remains an interesting concept.

"In a sense, *Thinner* is really an intimate story," says the cameraman. "Originally I thought that maybe to help it we could shoot in wide screen. I never pursued that thought, although I did mention it to Tom later and he said, 'I wish you had talked about it early on because I think you're absolutely right. It would have made the film larger-than-life.' It might have been nice to open up the intimate story, to let the actors play in the frame more. But, unfortunately, I mentioned it too late in production. I originally thought they'd never consider shooting *Thinner* in 'scope, because at first sight the story doesn't warrant it. It's an interesting afterthought; the process could have given the film more of an excitement level."

Stephen King is one author who is given a lot more pull with the filming of his novels than most writers could ever dream of having. As per King's wishes, his home state of Maine — the setting of most of his stories — becomes the temporary home of those wishing to film his novels.

"Maine is just a wonderful location!" Holland enthuses. "There's so much natural beauty there. Within an hour's travel from my base at Camden I was able to get a lot of different looks as long as I shot away from the sea coast — unless, of course, the character had

to be at the coast."

"Maine can be a difficult location," rebuts Van Oostrum, "because accessibility is hard. There's not a lot of public transportation, like small planes, so it's not an easy place to shoot in. But of course," he adds, "it's a very beautiful state, so you get some return on that end."

The author is also favored with cameos in the Laurel/New Amsterdam projects, and in *Thinner* appears as a pharmacist early in the picture. "He was generally very happy with what we were doing," says Van Oostrum. "I think he felt that the movie had the right tone — a very realistic manner, and not in a funky horror fashion."

Adds Holland, who was understandably concerned about how the makeup would appear on film, "It's very hard to go out and shoot a scene, look at it the next day and [find] that the light caught the makeup in such a way that the shots you must have can't be used."

"Things would come up that you wouldn't think of. For example, when Bob looked down at somebody, the weight of the makeup might suddenly pull forward and sag in a different way. There was one day when Bob turned his head without turning his body, and the whole right side of his face looked distorted because the motion pulled the makeup out. We learned that he had to turn his body to turn his neck, and then we had to try to hide the motion to make it look natural."

"The makeup is state-of-the-art, but it's still very limiting. Bob Burke helped by limiting his movements — he was a godsend. Not only did he give a wonderful performance, he was a real champ. My God, what the man went through every day! Hours in makeup, trying to act through it. The thinner the makeup got, the easier it was for him, but when he was under pounds of the stuff he'd be using his facial muscles underneath and it felt to him as if he was overacting. But when the movements came through on the latex, it didn't look that way. Working on this film was a real trial-and-error, learn-as-you-go experience!"

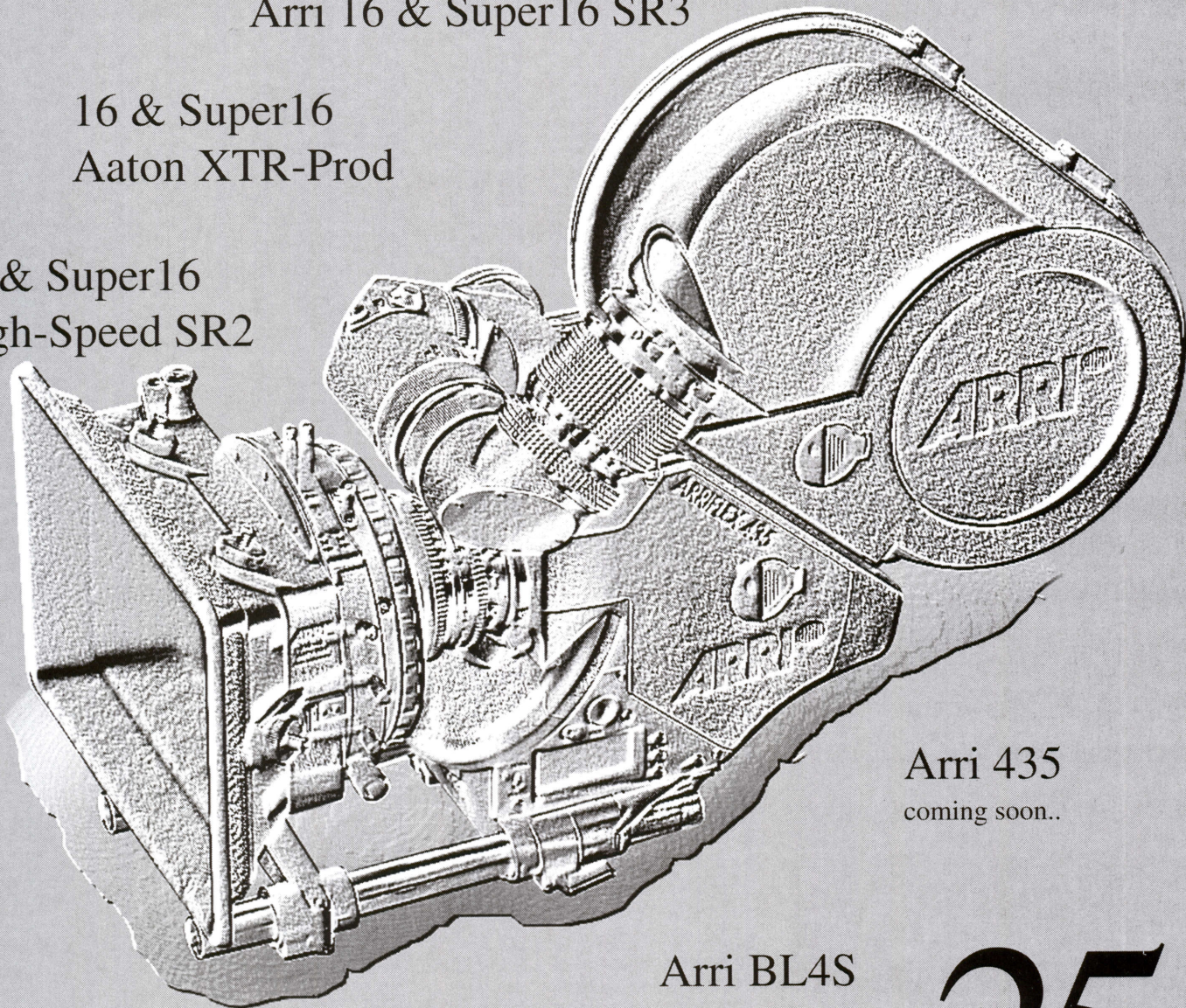
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Bringing the Dark Side of Character to Light in *Diabolique*

Director Jeremiah Chechik and cinematographer Peter James, ASC, ACS re-imagine the classic 1955 suspense thriller for the 1990s.

by Chris Pizzello

REMAKES OF CLASSIC FILMS ALWAYS PRESENT A THORNY challenge for a filmmaker. The inherent danger is twofold: show too much reverence toward the original film and risk the dreaded accusation of unoriginality, or worse yet, irrelevancy; or rashly reinvent a much-loved masterwork and come up against the righteous wrath of paternal film buffs.

Director Jeremiah Chechik's decision to rework the 1955 French suspense thriller *Les Diaboliques*, directed by Henri-Georges Clouzot, would seem particularly daunting. The original film has been a rich source of inspiration (and, in some cases, imitation) for years, due to its deliciously nasty characters, narrative twists and unceasingly black moral universe.

While the new film takes place outside Pittsburgh, Pennsylvania rather than in the original setting of the French countryside, much of the basic plot re-

mains intact. St. Anselm, a school for troubled boys, is owned by Guy Baran (Chazz Palminteri) and his wife Mia (Isabelle Adjani), a timid former nun who also teaches French at the school. She lives in fear of her domineering husband, who not only delights in humiliating her publicly but also indulges shamelessly in blatant infidelities. Guy's alluring mistress Nicole (Sharon Stone), also a teacher at the school, is treated with little more

dignity, but like Mia remains strangely addicted to him.

One day Nicole and Mia decide to free themselves from Guy once and for all by murdering him together. The duo devise a scheme that seems foolproof, and despite some unexpected complications, the plan is pulled off. In time, however, some ominous signs at the school point to the possibility that Guy may not be dead after all. At the same time, the strange bond

Right: Mia (Isabelle Adjani) contemplates her plight in a shuttered schoolroom. Cinematographer Peter James (below, in the arms of actress Sharon Stone), utilized a 12K to create "moonlight" source and bounced 2.5K HMI's off the ceiling for additional blue. Bounce from under Adjani added a "nice soft glow."



Photos by James Bridges, courtesy of Warner Bros.



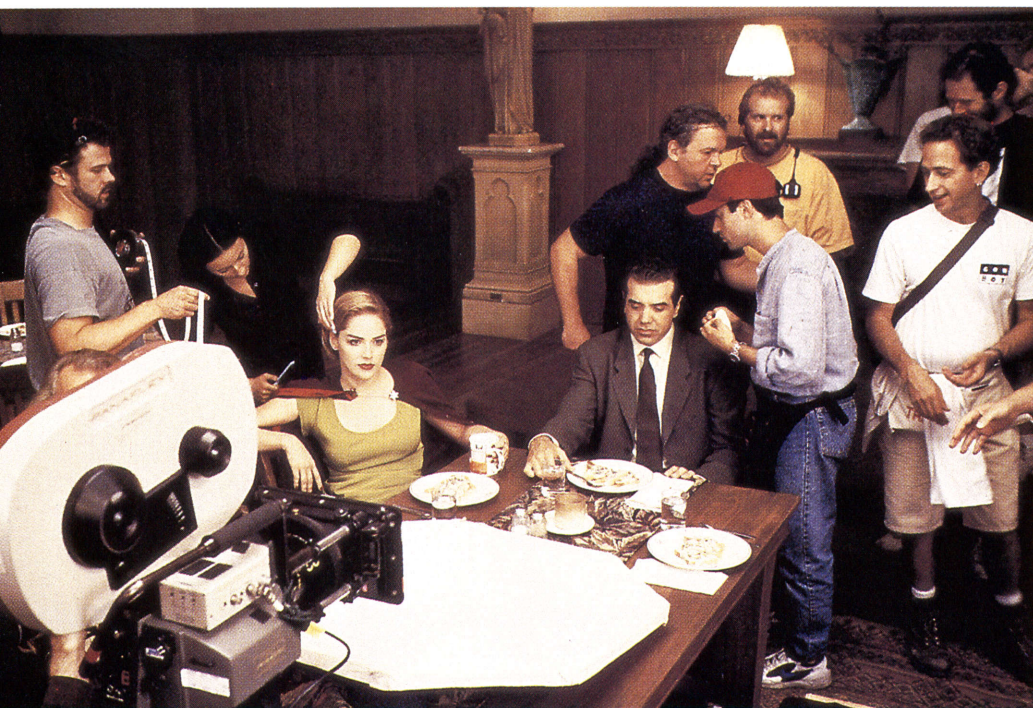
between Nicole and Mia begins to show strain when a private investigator (Kathy Bates) starts to look into Guy's disappearance.

While Clouzot's *Diabolique* certainly went far thematically, Chechik detected a distinct ambiguity in certain aspects of the story, which could be attributed to the more restrained cultural mores of the Fifties. "I'm not as reverential as most people are about the original film," the director asserts. "I

think it was a very good story, and the book [*Celle Qui N'Etait Plus*, upon which the original film is based] is really interesting. But in the movie, so much of the relationship between the two women was not and could not be dealt with culturally at that time. I just felt that [we had the opportunity] to stay emotionally truer to the book, the original material, and do a much more complex version. So I was never really daunted [in re-

making *Diabolique*]. In fact, I actually felt comforted, knowing that the original movie worked!"

Born in Montreal, Chechik got his start as a fashion photographer in Europe before moving on to directing award-winning commercials, and then films such as *National Lampoon's Christmas Vacation* (1989), *Benny and Joon* (1993) and *Tall Tale: The Unbelievable Adventures of Pecos Bill* (1995). The director had worked with three dif-



Stone and Chazz Palminteri are readied for a take. James helped reveal Palminteri's brutish character by gradually removing fill (provided here with a bounce off the table) to achieve menacing facial shadows.

ferent cinematographers on his previous features, but for *Diabolique* he sought out Australian cameraman Peter James, ASC, ACS, who had collaborated with Chechik on some of his earliest commercial work.

"Having known Peter for a number of years, I wanted his sensibility applied to this movie," says Chechik. "When we worked together on commercials, we did everything from very moody, sexy stuff to extraordinary landscapes. He has an amazing eye, he is extraordinarily gifted in terms of lighting women — not only in lighting them but making them feel good and secure — and he has a sense of how far to push the style and when to back off."

James started his career at age 15 in Sydney, Australia, working in the camera department of a film studio for five years. He then worked as a focus puller on the television series *Riptide* before becoming one of the first Australian freelance focus pullers to move into television commercials. An interest in editing and working with available light led him to documentaries, including the BBC/Time-Life *History of the British Empire* series and several other award-winning documentaries and short films.

James shot his first film, the 35mm short *Willy, Willy*, at age

25 in Australia, and received the ACS's Cinematographer of the Year award. He has been honored with the award three additional times, more than any other Australian cameraman.

In between shooting lavish, big-budget commercials in Toronto and Los Angeles, James would photograph a variety of Australian features, including *Caddie* (which brought another Cinematographer of the Year honor and a Samy Award in 1976), *Rebel* (which garnered an "Australian Oscar" from the Australian Film Institute in 1986) and *The Right-Hand Man*, for which he earned another Film Institute Award in 1986.

James then began a long and still-thriving collaboration with director Bruce Beresford on the Oscar-nominated *Driving Miss Daisy* (1991), *Mister Johnson* (1991) and *Black Robe*, which was judged Best in 1992 by the Canadian Film Awards, Australian Film Critics and the Australian Film Institute, and earned him the Australian Cinematographer of the Year award.

His most recent American credits include country-western romance *The Thing Called Love* (1993), *My Life* (1993), and two more pictures with Beresford, the thriller *Silent Fall* (1994) and the upcoming prison drama *Last Dance*, which also features Sharon Stone.

The cinematographer credits the jarring combination of big-budget commercial work and thrifty Australian features as one of the key factors that shaped his style. "I've got a good idea of what you can do with a lot of money, and what you can also get with not much money at all," he explains. "I think this is pretty common of the Australian cinematographers — they've had to pull off fairly difficult shots with not necessarily the most state-of-the-art equipment. Sometimes you can get so preoccupied with the Steadicam or the latest hothead or electronic gadget that you can forget what you're there to do, which is to tell a story. Although [cinematography] can get very complicated, I think it should all look fairly simple on the screen."

After committing to *Diabolique*, James rented out the original on videotape and was surprised by the simplicity and economy of the filmmaking. "We were making a new film, so I wasn't particularly interested in what they did because I really just wanted to serve the director's needs on the current version," James says. "The original was done very quickly, I think, with not very many shots. They probably did less than 500 setups for a film in 1955, whereas nowadays I think we do three times as many — maybe 1,500. The audiences today are much more demanding. You can't just get away with one angle for a whole dialogue scene."

Even so, James feels that the original *Diabolique* is quite visually interesting for its time, and he tried to capture some aspects of its style in his own photography for the updated version. "I thought the murder sequences in the bathtub were done very well in the old film," he notes. "The feeling of the school was very good. It was done in a rather simple French provincial style in the country, which was quite charming and gave the school an isolated feel. We were trying to achieve that feeling too, even though we shot it at an old decommissioned Catholic boarding school called St. Anselm in the middle of Pittsburgh. The production designer, Leslie Dilley, always made sure we had greens and cam-

ouflagé nets to cover up the neighbors' houses around the school during the two months of filming, because we wanted this school to look as if it was in a very isolated part of Pennsylvania."

The psychological motivation behind this sense of solitude is alluded to in Chechik's explanation of his initial visual ideas for the picture. "I wanted the whole film to be evocative and mysterious," says the director, who was influenced by the works of painter Edward Hopper in preparing for the production. "There had to be things that wouldn't meet the eyes, but I also wanted the film to have this exquisite glamour. The school would have to look like a world out of step with time, almost like a modern 'period' film. So I didn't want the school to be gritty and real, and yet I didn't want it to fall into fantasy. I was trying to capture a place that was its own specific world, but that could also conceivably exist in reality."

In achieving this balance between slight disorientation and a more comforting reality, Chechik and James exerted a subtle command over the filmic variables on location in Pittsburgh. "Jeremiah wanted a monochromatic feel for the film," says James. "We had both wanted to shoot it in black-and-white, but that wasn't possible for distribution reasons. So we asked the production designer to not give us bright colors. We always worked in a blue-green palette. I used cool light whenever possible to give the film more of a monochromatic look."

"We also used rather conventional lenses, from about a 28mm to a 75mm most of the time," he continues. "We didn't do close-ups with wide-angle lenses and we didn't use 600mm lenses to do wide shots or close-ups. Everything was kept to a normal perspective. We used dollies nearly all the time rather than zooms, which we reserved for when Mia [Adjani]

was having these spiritual moments, since I find that a zoom has more of a spiritual feel than a dolly. But most of the time we just went with the standard set of Panavision Primo lenses."

Chechik adds that this strategy of conservative focal lengths keeps the audience in tune with the long-suffering Mia, with whom they are most likely to identify. "By using just those [normal perspective] lenses, we could express how the main character saw the story without imposing an outsider's view," he points out. "There were situations where we could have achieved a more graphic image with a different lens, but elected not to do it because we wanted to stay in touch with Mia, the emotional center of the movie."

Similarly, Chechik and James kept camera movement to a

judicious minimum except when they wanted to heighten the suspense very specifically. "We didn't want to affect too much camera movement because our goal, again, was to make the film look as real and believable as possible," stresses James. "We want the audience to really get involved in the plot, and if we had gotten gymnastic with the camera, it would have taken them out of the film."

The filmmakers' determination to keep tight reins on the audience's emotions extended to more unpredictable exterior scenes, when the vagaries of a Pennsylvania summer came into play. "I never, ever had Sharon and Isabelle in harsh sunlight," James emphasizes. "I was praying for overcast weather for the entire film, but we didn't luck out. It was a very good summer in Pittsburgh! As a result, my key grip, Dennis Zoppe, and his crew had to fly some huge 60' by 40' scrims over the entire school. I do have sun in the background in some cases, but I really wanted to keep them in this somber, claustrophobic world. They're almost like vampire characters. Even though they're out in the country, both women are in a sense caged up in their own prison, and keeping them in shade lent a feeling of a lack of freedom. I think this works very well dramatically,

Left: Mia and Nicole confront a persistent private investigator (Kathy Bates). Below: Multiple Panaflex cameras converge for coverage on the death struggle between Mia, Nicole and Guy — leading to the rake's watery comeuppance. James used 5296 for the murder sequence, adding more texture for a "documentary" feel.



because it keeps the film controlled. In this picture, everyone is controlling everyone else; there's a lot of psychological manipulation going on. And by manipulating the sun, that same sort of freaky control feeling is passed on. The audience is very much in a controlled environment."

For James, the most intimidating aspect of shooting *Diabolique* was the responsibility of photographing two of the world's most famous and beautiful actresses in Stone and Adjani, who each required drastically different styles of lighting. "On the one hand, Sharon is this classic Hollywood beauty, while Isabelle is absolutely gorgeous in the classic European style," the cinematographer observes. "For this film, I had a basic idea to make a film noir in the classic sort of French and American style, but we soon found that harsh light on both of the actresses wasn't going to be all that favorable."

"Sharon could take more of the look made famous by [celebrated Hollywood still photographer] George Hurrell, so I gave her a rather hard light like the Forties glamour photographs of stars, where the light is high and three-quarters front lit. She's got wonderful cheekbones and a good chin and nose, so she can take that rather harsh light. It also gives her a hard edge, which works dramatically because she plays a hard-edged character in the film."

"Isabelle's character is an ex-nun, so I wanted her to be sort of beatific all the way through so

that she has this inner glow and innocence. She's got the naiveté of a nun and looks a bit like an angel. It almost looks as if she's swallowed a light bulb because she has this glow all the time. When Isabelle's character seems completely angelic, I would put a black ProMist filter on the lens to soften her further. Even when her character becomes rather devilish at the end, I still gave her that glow, though not as much as before."

Complicating the different lighting strategies further, Chechik and James soon realized that the actresses' scenes together became much more compelling when the two were captured in the same frame. Explains the director, "Their energies — Isabelle's sense of spiritual energy and Sharon's 'force of nature' energy — are so incredibly powerful onscreen that I realized the more I had them in the same frame, the more palpable and unusual those energies became in the scene for the viewer. For Peter, though, [it meant] two different faces, two different requirements of light, two different kinds of makeup, two skin tones, blonde and brunette hair, dark clothes and colorful clothes — and he had to keep it all within the mood and contrast of the overall scene. With the beauty light of the women versus the contrast and harsh light of the scene, technically it could have been a pretty abusive situation!"

James achieved this delicate balance through a combination of clever blocking and technical resourcefulness. "It was really tough!" he admits. "Often it de-

pended on the choreography. Mostly they couldn't be facing exactly the same direction. Sharon might have her back slightly toward Isabelle, slightly profiled but with her head turned towards the camera, whereas Isabelle might stand facing straight ahead, toward the camera."

James and gaffer Brian Gunter developed a large soft light for these scenes, a four-foot round dish with four small 2K bulbs placed around the front and a 150-watt blue daylight bulb in the middle. The cinematographer used a small white dot-shaped diffusion over the bulb to prevent direct, harsh shadows. "I would often use this as Sharon's key light, and if Isabelle got some of that light on her, I would then fill her separately and not fill Sharon," he explains. "This four-foot round light became their common light. I could just switch the bulbs on and off to control its density. I could put it just low enough so that it was 'on the money,' doing the job for Sharon, and then light Isabelle further with some other tungsten lights bounced off poly."

"Every setup was a bit like photographing a magazine cover," James summarizes with a wry laugh. "It was really important to have them looking fantastic."

For Palminteri, who plays perhaps the darkest character in the film, James matched his lighting style to Guy's downward arc in the story. "At first when you see him in the film, you think he's an okay sort of fellow," relates James. "I gave him a flattering, nicely positioned key light with quite a lot of fill. I tried to lend him this appeal so that the audience could maybe see what makes him attractive to Mia and Nicole. But as he starts to go sour and we start to see the story more through the women's eyes, I gave him more of a top light with no fill. That works quite well, because he becomes quite the menace. Of course Chazz plays it quite sweetly, against type. But I lit him in this rather contrasty way, so there's no mistaking that he's the bad guy."

Chechik stresses the built-in benefits of the production's Pittsburgh location in terms of both its convenience and in capturing

In a Plexiglas splashbox built by best-boy grip Terry Arthur, a water-level Arriflex cranks at 120 fps to emphasize the discovery of Guy's lighter in the ill-kept pool. James often used water-level shots to suggest the secret hidden beneath its depths.





Nicole smokily schemes Guy's fate. Sharon Stone, remarks James, "can take that rather harsh light. It also gives her a hard edge, which works dramatically because she plays a hard-edged character in the film."

the proper evocative ambience for both the filmmakers and the actors. "The grounds, the light, the color of the buildings, even the stones were readily perfect for us to enhance and build on additions without a tremendous amount of grief," he states. "Ditto for the interiors. There were huge unused spaces in the attic portions of the school where we could build other sets. So we basically used the place as a total studio. From a production point of view it was great, as well as from a mood point of view for the actors. It really helped them to actually be in this place."

Mia's classroom, symbolically decorated with hundreds of birds in a glass cage and a Statue of Liberty surrounded by scaffolding, is the setting for two of the trickier photographic sequences in the film, in which James got to utilize the room's Venetian blinds to creative effect. In one night scene, Mia rushes to the classroom after being humiliated by Guy in the crowded boys' dining room.

"Chazz comes after her into the room, and there are just shafts of moonlight coming through the window," describes James. "It was quite difficult because I wanted that feeling you get

when you're in a darkened room, when the moon is bright and you can see buildings across the way. You don't want to have any lights on inside the room, but you still want to be able to see something. So I had a 12K light on a crane outside, creating these Venetian blind shadows across the wall, which we actually drew with a pencil on the wall. Because we were doing this scene over more than one day, we had to put the light back in exactly the same place so that the shadows would be reproducible. We then knew exactly where to put the 12K light on the crane the next night.

"I put a very soft fill light coming down from above in the room by bouncing a few 2.5K HMIs off the white ceiling, so that there was a low-level exposure as well. Then I underexposed the entire scene. It was a delicate balance of exposure and ratio, because the ratio can't be too high. I also put a piece of poly under the lens to create a nice soft glow for Isabelle."

James used smoke to create a softening effect in a daytime classroom scene rife with richly ironic overtones. "The blinds are drawn in the room and they're projecting an embarrassing old sex-education film in which a coach is

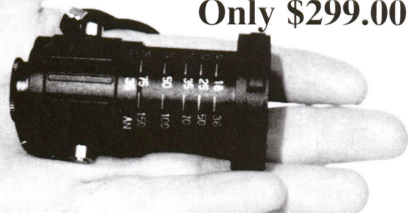
telling boys in a gym about the facts of life," James recounts. "While he's talking about these things, Mia is still thinking about the body of her husband, which she and Nicole have dumped in the swimming pool on the grounds. I wanted to have a shaft of light from the projector coming onto the screen, so I put smoke in the room to pick up the beam of light. Although it was again dark in the room, I still wanted to see somebody, and I was careful not to put too much light on the screen so that the image wouldn't wash out."

In the scene, Mia walks in front of the projector's beam, causing an image from the film to be projected onto her face. The class is then interrupted by a loud noise outside. The students rush to the window and open the Venetian blinds so that daylight floods in.

"The whole thing was a very tricky balance of contrast," James comments. "By putting just the right amount of smoke in the darkened room, you can see the projector beam without diffusing the blackness too much. I did a dolly on the opposite side of the room so that we were photographing Isabelle walking in silhouette in front of the closed blinds with just

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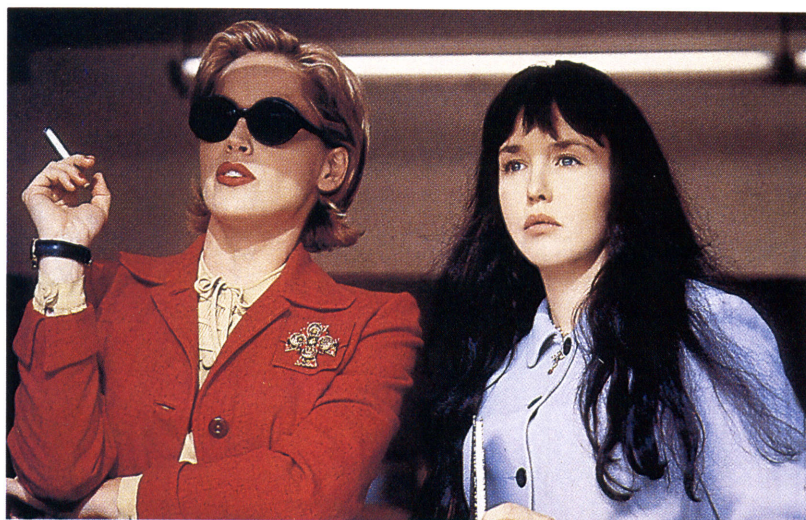
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a little glow behind them. Because the sun was fairly bright, we put some ND-9 hard acrylic filters on the windows so that the blinds wouldn't be too bright. You could see the boys watching the movie with just a little bit of glow light on their faces, and yet you

could still see the image on the screen because the room was still dark enough. When the full bright light from the window came in, we reduced the amount of smoke to virtually nothing."

James used Kodak's 200 ASA 5293 tungsten film for nearly the entire film, the significant exception being a murder sequence in an apartment outside the confines of the school, when the faster 500 ASA 5296 film was employed. "I wanted the shooting at the school to be fairly smooth, and I felt that 93 gave me the richest look," says James. "If I really got into trouble, I would push it a stop. It's got such good blacks and latitude. The 96 does have more texture than the 93, with a little more of a documentary feel. Using 96 for the murder sequence gives that part of the film a little more of an edge, so that it sets up the audience and says, 'We're going into something a bit different here.' Then, when we re-

Wardrobe colors helped define character and emotional change. As James notes, "Isabelle goes from wearing gray and then pale apricot, flesh color. Sharon on the other hand starts off with really bright colors like blood red and chartreuse." As the story unfolds, they slowly adopt the other's looks — symbolizing their growing entanglement.

turn to the school, it's back to the other look, with deeper blacks and a more sinister feel."

James worked with a Panavision Panaflex Gold camera on most of the film, although he also used an underwater Arriflex camera for some sequences set in the pool where Mia and Nicole dump Guy's body. "Terry Arthur, my best-boy grip, built an underwater Plexiglas box so that the camera could get some very creepy shots in the swimming pool at water level," James says. "Whenever anybody walked past the pool, we would put the camera at water level looking up at them. If we had sound in the scene, the box was big enough to fit the Panavision in there, but if we didn't need sound it was much lighter and more convenient to use the Arriflex. When one of the schoolboys comes up out of the pool holding Guy's cigarette lighter, we shot his hand coming up out of the water at 120 frames per second with the cigarette lighter glinting in the light, like the sword Excalibur coming out of the water."

The scheming natures of the characters in *Diabolique* are constantly adapting to new twists of fate, so the filmmakers make appropriate but subtle visual shifts as the narrative progresses. Mia and Nicole's relationship becomes strained following the "murder" of Guy, and they seemingly begin to trade aspects of their respective personalities. "A wardrobe twist slowly happens during the film," James notes. "Isabelle goes from wearing all black to wearing gray



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and then a pale apricot, flesh color. Sharon on the other hand starts off in really bright colors like blood red and chartreuse green, with outrageous leopard-skin prints and matador pants. But she starts to wear more somber clothing as her character changes. They [indicate] their moods by their wardrobe. By the end, Sharon has a very natural look and Isabelle has the rather harder look."

James was careful not to follow the wardrobe and makeup changes too closely with his own lighting changes. "Because this story had so many twists and turns, it's important that *my* twists and turns aren't always the same," he stresses. "I don't necessarily change my photography at the same time that the plot or the wardrobe changes. It would make the wardrobe change or the art directorial change very obvious if the photography changed at the same time."

For Chechik, this enigmatic and ever-fluctuating relationship between Mia and Nicole is the heart of the film and the main reason he remade *Diabolique*. "In the original, I couldn't really understand what was going on between the women, sexually or emotionally," he states. "To me, what was going on between those two women was more important than the murder and all of the abusiveness in the story. How did the women manipulate each other and who was really doing the manipulating? Who was the victim and who was the aggressor? Who was being suckered and who wasn't? Those are the central issues to *Diabolique* as I've directed it."

James sees the story in similar terms, which allowed him to form a philosophy to guide him through a very complex film. "For me, *Diabolique* is about these dark characters and how they change, the sort of mercurial nature of mankind," he offers. "On every film, you have to have a philosophy for the photography. It might be what I call a big dream, but once you have that initial dream of what the film is going to look like, you have to visualize it and then spend the next three months of photography realizing it. Really, what you're doing is photographing your philosophy."



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"I've always known film is an art form because it has the power to deeply move people. Artists can put something positive into your soul. They can inspire you and change your life. I believe cinematography is becoming bolder and more impressionistic because we realize we are doing much more than photographing plays. We are moving from capturing how things look to interpreting how we feel about them. We are always experimenting. Rigid pursuit of technical perfection can inhibit flashes of spontaneous creativity. The newest technology lets us move the camera freely and easily, adds great extremes of contrast to our palette and allows us to light the way our eyes see, with a lighter touch. We strive to create tangible emotions and dramatic tension with spatial relationships in the frame. That is why I passionately oppose any form of cropping or alteration to our compositions. My goal is to use the beauty and power of the medium to immerse the audience into the essence and soul of cinema."

Robert Primes

Bob Primes earned an Emmy last year for *My Antonia*. He also shot the first year of *thirtysomething*, the last eleven episodes of *Quantum Leap*, and the pilot for *Reasonable Doubts*. Other credits include *Bird On a Wire* and other features, hundreds of commercials and the upcoming telefilms *Harrison*, *Cry of the City* and *She Fought Alone*.

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As news director Warren Justice and reporter Tally Atwater, costars Robert Redford and Michelle Pfeiffer benefited from independent lighting — hers a narrow high-key shaft and his an indirect source. A rim light filling their hair adds an additional touch of romance.



Photos by Ken Regan/Camera 5, courtesy of Touchstone Pictures Company.

Romance on the Air

Cinematographer Karl Walter Lindenlaub, BVK brings out warmth amidst newsroom realities in *Up Close and Personal*.

by Jean Oppenheimer

AS IF TAKING OVER FOR ONE OF THE most esteemed cinematographers of the day weren't intimidating enough, try doing it on a film featuring two mega-watt movie stars, with sets that require such technical gymnastics as shooting live film footage of live video footage. These were the humble duties of Karl Walter Lindenlaub, BVK, the German-born director of photography on *Up Close and Personal*, a romantic drama starring Robert Redford and Michelle Pfeiffer and set in the world of television newscasting.

The film concerns Tally Atwater (Pfeiffer), a young woman determined to become a TV news reporter, and follows two closely-

interwoven threads: the developing relationship between Tally and her mentor at the station, news director Warren Justice (played by Redford), and Tally's own emotional and intellectual journey as she tries to achieve her dream. During the course of the film she progresses from an awkward, inexperienced wanna-be, wearing tight dresses, frizzy blond curls and too much makeup, to a confident, sophisticated professional in a tailored suit and brunette bob. There are many stops along the route, and different looks were required for both Pfeiffer and the sets.

With that in mind, director Jon Avnet asked for — and got — two weeks of extensive makeup,

hair, costume and set tests. It was during this period that Lindenlaub tried out different lighting configurations. "I had a lighting setup where I could switch between four or five different situations just by using dimmers, without holding up the actors. I [put up] a simple, neutral backing and with each change of wardrobe, hairstyle and makeup they would just come and go like fashion models. We would shoot them wide and then close." The tests proved invaluable for all departments, ironing out many of the aesthetic problems beforehand and saving time once actual production began.

The thorough prep also helped to smooth the collaboration

between Lindenlaub and Avnet, who were working together for the first time. Michael Ballhaus, ASC was originally scheduled to shoot *Up Close and Personal*, but became ill on the first out-of-town technical scout and had to drop out of the project. Stepping in for another cameraman, especially one of Ballhaus' reputation, made an already pressured situation even more so for Lindenlaub, but Avnet had been impressed with the cinematographer's work on *Rob Roy* and offered him the job.

Lindenlaub, who has also photographed the science-fiction epic *Stargate* and the upcoming *Independence Day* for director Roland Emmerich, says his main concern was making the picture look realistic, not glossy or kitschy. And he wanted to subtly track the visual twists of Tally's journey from a Nevada trailer park to a major network newsroom. Of course, making his high-profile co-stars look good was another important consideration for the cameraman, as Pfeiffer appears in nearly every scene, with Redford often occupying the same frame. Each actor, however, required a very different lighting style, presenting Lindenlaub with an enormous challenge.

"Michelle needs a pretty narrow, high-key light, usually from on top of the camera," explains Lindenlaub, "whereas Redford needs indirect light. I'd have to have something special on her, flag it off him, have something special on him and flag it off her. It made for a lot of grip work."

Lindenlaub's usual approach when shooting interior day scenes is to have hotter lights coming in from outside the frame and to bounce light for ambient fill inside. But that didn't work for Pfeiffer, who needed a narrower, more direct source.

To help concentrate the light more directly he attached

small cardboard tubes — black tubes with two layers of diffusion — on the Fresnels, which helped to diffuse the light without spreading it out. The crew jokingly referred to these devices as "lindenschnuts" ("schnut" is German slang for snout). One of these units was always rigged behind the camera when Pfeiffer was being photographed.

"They're like little Chimeras, which are very popular at the moment," explains the cameraman, "but I don't always need 2K, 5K or 10K Chimeras; it's too much light for a little room." He came up with the idea for the tubes after recalling an article he had read in *American Cinematographer* several years ago about *Blade Runner*, for which director of photography Jordan Cronenweth, ASC had con-

structed a huge cylinder in front of his 10K key light with layers of diffusion built into the tube. For his own purposes, Lindenlaub simply adopted the idea on a smaller scale.

Redford required more lights than his co-star, but less intensity. "That's something you can only do by eye," says Lindenlaub. "You can just throw your light meter out the window. You set up a couple of lights, look at the scene, say 'Take that one and that one down,' and shape it. Hopefully at the end it looks like just three lights when, in fact, it's six." Chinese lanterns or bounce cards were added to provide low fill. The lanterns — round paper housing units that cost just 12 dollars each — proved especially easy to hide.

Most of the film's action takes place inside two TV stations: WMIA, ostensibly located in Miami, and WFIL in Philadelphia. The sets, designed by production designer Jeremy Conway and built on soundstages at Culver Studios in Los Angeles, consisted of a news studio, control room, private offices, conference rooms and edit bays. The offices were lit with overhead soft lights, usually Kinoflos or space lights hung above plastic grids. The top lighting wasn't always favorable for Redford, however, and for tight dialogue situations they were turned off so that

Lindenlaub (left) utilized a well-placed, low-intensity practical in the scene below to fill both actors and suggest the emotional glow between their characters.





The monitor-encrusted newsroom set demanded real-time synchronization between video playbacks, live feeds and the film production camera. A series of five digital conversion boxes, engineered by Alan Landaker, solved the 29.97-to-24fps dilemma. For the reflection shot at top, Lindenlaub used a 70-30 mirror to boost the effect.

conventional motion picture lights could be substituted from the floor. The actual studios, where the anchors sit and read the news, were rigged with plenty of tungsten fixtures. To preserve a realistic feel, the lights on the newscasters were usually kept one or two stops brighter than on the actors in the rest of the room.

Every set was pre-lit and every light was connected to a dimmer board. "A lot of times I fade things in and out," explains Lindenlaub. "People walk closer to lights and get too bright. You can use dimmers to control lighting as well as flags. Rigging gaffer Chuck McIntyre and I walked through [the set] and allocated lights to certain areas, so we knew we had built-in overhead ambient light ready on the dimmer board on the day of shooting. We could basically light the whole set on command."

Although Lindenlaub has shot a lot of anamorphic pictures, he felt that the 1.85:1 format was better for *Up Close and Personal*. He notes, "So much of the story focused on two people, and a lot of the time it [involved] monitors. I felt anamorphic would get in the way of telling the story because I would have to light certain scenes on a higher light level to get enough depth."



Another benefit of the conventional format was that it enabled him to use standard Primo lenses, which he likes for their color performance and ability to carry highlights. "Their only problem is that they're too sharp," he laughs.

To take the edge off, Lindenlaub, who usually tries to avoid much diffusion, relied on Soft Effects filters as well as ProMist and/or Subtle Net. "We used ProMist for wide shots, Soft Effects One for medium close-ups and Soft Effects Two, especially in the second part of the film, for tight close-ups."

Because the film takes

place in the world of broadcast journalism, a decision had to be made early on about whether to shoot the news segments — Pfeiffer's reports from the field and anchor desk activities in the studio — with video cameras, which is how real news operations do it, or on film, which could then be degraded in post to make the footage look more like tape. For the most part the movie was shot on film stock, but sometimes both film and tape were used in the same scene. Film is shot at 24 frames per second, while video is shot at 30 fps (29.97, to be exact), so the two formats had to be synchronized.

Many movies contain scenes in which a television set is playing in the background, but the TV material has usually been converted to a 24-frame tape and is merely being played back during filming. Avnet, however, wanted

to be able to film scenes which contained a monitor on which an actor was performing live. In one such sequence, Redford is sitting in the control room watching Pfeiffer on one of the monitors as she gives the weather report. He walks to the edge of the control room and looks through the glass down into the news studio where Pfeiffer is at that moment completing a live broadcast report. He then looks back at the monitor in the control room — with the camera panning along his line of vision — where Pfeiffer is still "live."

In order to photograph the video image on the monitor as it was coming in live, the video feed's

frame rate had to be converted to film's 24 fps on the fly — a logistical nightmare. "Thankfully, other people had to deal with that," laughs Lindenlaub, "not me."

Those lucky people were Rick Whitfield, the film's video supervisor, and his crew. Whitfield had worked on *Quiz Show*, while his video engineer, Richard Clark, had worked on *Broadcast News*, two projects which required the same type of on-air-in-a-film environment, albeit not on so grand a scale.

Whitfield realized that the only way to give Avnet what he wanted was to have live Standards Converters on the set, so that the conversions could be done at the same moment the film was being shot. But Standards Converters were very expensive and very specialized; most 24-frame video companies only own one or two and keep them in-house. No company could do without their machine for 10 weeks, the length of *Up Close and Personal*'s shooting schedule.

To make matters more complicated, Standards Converters traditionally work at 24.02 fps, not 24. During on-set playback, a 24.02 fps tape can be slowed down to 24 fps, achieving the desired result. But Avnet needed it done in real time with a live feed.

This seemingly insurmountable problem was solved by Alan Landaker, an engineer with a Technical Achievement Academy Award for his work in 24-frame technology. For *Up Close and Personal*, Landaker specially designed a digital conversion box which could take 29.97 and convert it to exactly 24.00. He managed to finish the new device quickly enough to first fully test it out on two other projects.

Whitfield used five of these digital conversion boxes on the film. They sat in a video playback room which had been specially constructed behind the newsroom set to house all the equipment he needed for his work.

To ensure that the film shot for video playback actually looked like tape, interpositives were made at the lab, and then professional telecine transfers were made from the IPs. "IPs are expensive to make," acknowledges Whitfield, "and most people say



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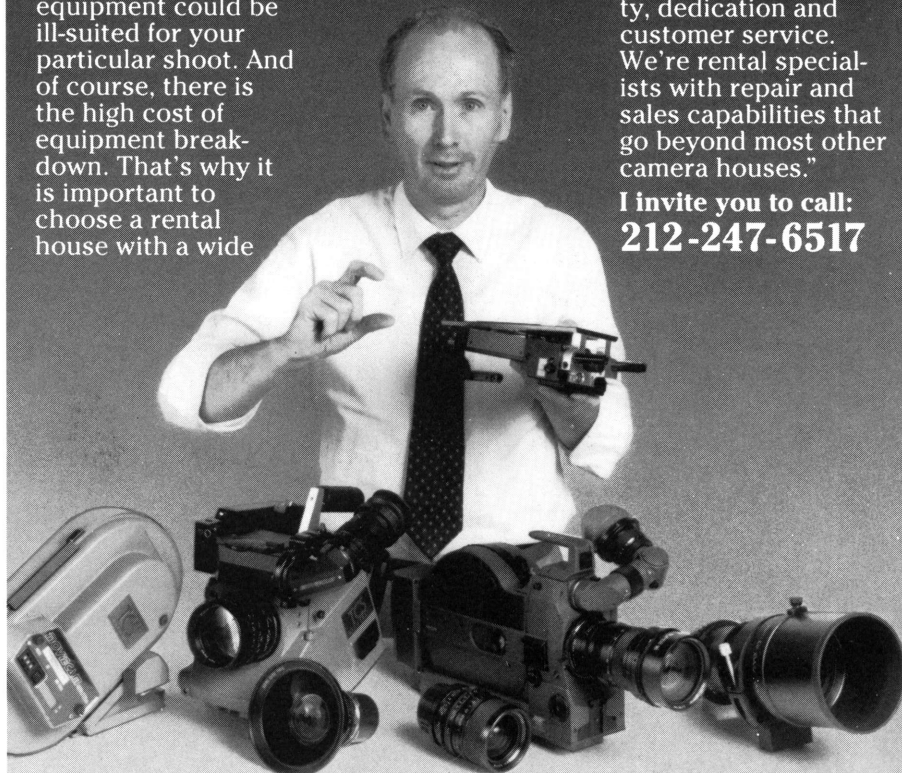
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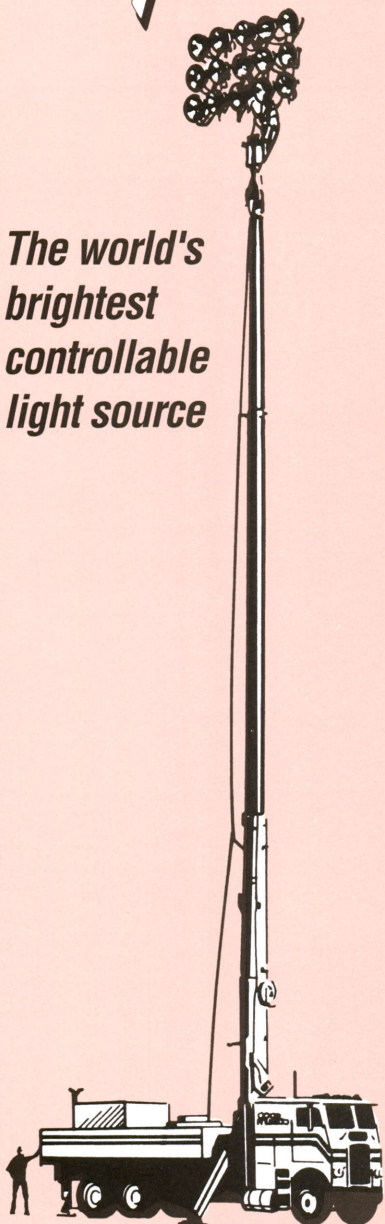
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'just transfer the work print,' but that looks awful because it has high contrast in the transfer. Even low-con prints are still too contrasty, and they aren't that much cheaper than the IPs."

The movie's title sequence, an extremely complicated and impressive shot, proved an innovative merging of both film and tape. The picture opens with Tally — now an established, sophisticated newswoman — being interviewed about her career. (The film essentially becomes a flashback that traces how she arrived at her present position.)

Avnet wanted to start on pixels inside a television tube and pull out to reveal an eye which, as the lens continues to pull back, turns out to be Pfeiffer's. The camera continues pulling back until the viewer sees her whole face on the monitor; as it pulls back further, we see Pfeiffer herself sitting in the background and realize that the image on the monitor is her being interviewed (on tape) right then and there.

"We always thought it would be an optical," says Lindenlaub, "because I couldn't figure out how we would be able, with a conventional lens, to start that close, focus-wise, and then pull all the way out. But on the day of shooting, my camera operator, Peter Krause, and I found a great solution."

The technique demanded that the video camera start as tight in as it could go on Pfeiffer's face, producing what was essentially a macro shot of her eye. The lens slowly zoomed out, and when the actress' whole face was visible, the film camera — which had been photographing the image on the television monitor the entire time — continued the zoom.

"Within the frame of the monitor you don't see who is moving what," explains Lindenlaub. "As the video camera comes to a halt — Michelle is in medium close-up — the film camera takes over. And I was on a track, so that gave me an extra zoom effect. It's all one shot." (With the exception, that is, of the abstract particles at the beginning of the sequence, which were created in post with animation. A seamless hand-off

from animation to the tight video disguises the edit.)

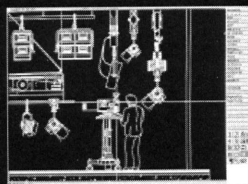
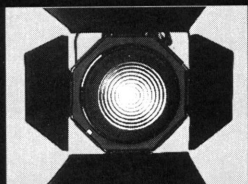
Initially Pfeiffer was to sit in front of a plain white backing, but Lindenlaub felt that the scene needed something extra. After trying and rejecting a number of textile backings, he and gaffer Jim Tynes decided simply to light the background, using red, green and blue lights.

"I changed the color consistently [as the lens was pulling back.] It starts red, then becomes blue, then green, and in-between we have all the other hues where your prime colors overlap. So the background changes intensively and she stays the same, and we did that just with lighting. I thought it was a wonderful way to introduce the world of television and to introduce colors, which become more muted as the picture progresses."

The changing color scheme of both the wardrobe and sets, as well as the physical spaces used, helped tell the story, reflecting not only Tally's professional climb but also her emotional growth. She begins her first day as a desk assistant in a form-fitting, hot pink outfit; her clothes become more subdued and tasteful until in the last scene she is wearing an elegant but simple designer suit. The WMIA set in Miami is a dual-level structure with lots of offices and rooms. Cluttered and a bit tacky, it is done in warm reds, mauves and oranges. WFIL in Philadelphia is more austere and has cooler tones, and consists of just two big spaces, one of which was an actual location: the 20th floor of a downtown Los Angeles high-rise (standing in for Philadelphia). To suggest a cooler, East Coast sunlight look, Lindenlaub didn't correct the windows in the office for tungsten light; he just used neutral density filters to control the changing light levels outside.

The major network that is Tally's final stop is one big set, totally stylized, with just a desk, a bluescreen and cameras. The final scene, in which Tally addresses an affiliates meeting, takes place in a large, abstract conference hall that is almost colorless.

Lindenlaub also used a different film stock for the Miami interiors — Kodak 5298 — than for



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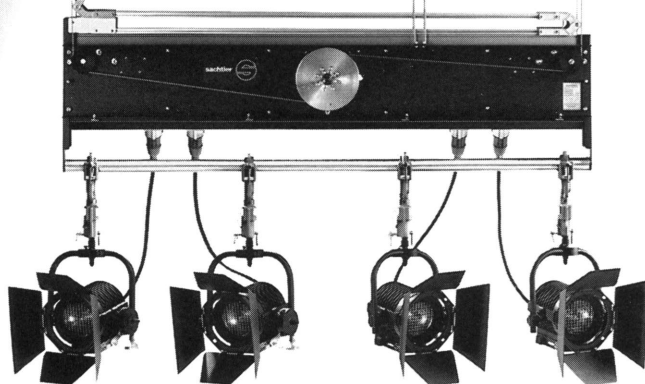
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Philadelphia, where he switched to 5293 "to make it a little cleaner." Kodak 5248 was used for all day exteriors while night exteriors were shot on 5298.

When it comes to moving shots, Lindenlaub goes by the formula, "If you can't do it on the dolly but it's a great shot, use the Steadicam. Otherwise, don't use it." In fact, the film called for several very long and complicated Steadicam shots, including a four-minute excursion which started in WMIA's upstairs control room, descended a spiral staircase and wended its way through the news studio and downstairs offices. Both Avnet and Lindenlaub had high praise for Steadicam operator Chris Haarhoff.

Haarhoff and A-camera operator Krause both had to contend with a preponderance of glass in every shot: transparent walls, partitions within rooms, and dozens of TV and computer monitors. To avoid unwanted reflections, the glass panels running along one side of the control room were mounted on gimbals.

One elegant shot toward the beginning of the movie took full advantage of the glass surfaces. The scene marks a key plot point in the story: Warren Justice realizes that Tally has incredible untapped talent or, as he puts it, "she eats the lens." Pfeiffer is broadcasting from the news studio for the first time, giving a weather report, while Redford is sitting in the upstairs control room, watching her on the monitor. We see him straight on, behind a glass partition, sitting on the right side of the frame while Pfeiffer's image is reflected in the glass directly to his left. In order to increase the reflection, Lindenlaub used a 70-30 reflected mirror. (Asked how he managed to coordinate so many elements at once, Avnet laughs, "Well, I tried not to yell a lot.")

A kind of book-end visual and story point occurs late in the picture when Tally and her ENG (electronic newsgathering operation) cameraman get caught inside a prison during a riot. They continue to broadcast as the inmates rampage. A helpless Warren Justice sits in a news van parked outside the prison and watches Tally

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on the monitor. The camera stays on his face as he realizes that his protégé can fly without him.

The prison scenes were shot on film at an actual correctional facility in Holmsburg, Pennsylvania. "It was a totally different world," says Lindenlaub, of the dark, forbidding location. "Most of the scenes took place at night."

For night exteriors the crew installed two Muscos and, on each guard tower, a 4K Xenon. A Night Sun was also mounted on a helicopter. Inside, the facility was equipped with dozens of wall units. "There were existing sodium lights which I couldn't use because they were too yellow and low in their intensity," the cameraman explains. "So we replaced those with 1K nook lights built into new housings in the wall. They looked like practicals and we had a lot of them rigged up at the far end, so the whole thing got some depth."

Although low-light conditions precluded the use of video for this sequence, Avnet wanted the inside riot footage to "break up" on-air the way a live broadcast would under similar conditions. Eighty percent of the interference involved mixing in various types of snow effects, according to video supervisor Whitfield. "In a number of cases we would add the interruption to it as we filmed the image off the monitors, so we could control it." That was true whether it was a live video shot or a film transfer shot. In the latter case, Whitfield would run the video through a low-power video transmitter; by adjusting the receiving antenna he could cause certain kinds of interruption.

Technical feats are always a nice achievement, but for Lindenlaub they are important within a particular film only if they help advance the storyline: adopting a shooting style which tells the story is his highest priority.

"Lighting is subtracting," offers the cinematographer. "Basically I always thought simpler was better. But on *Up Close and Personal* I needed to put in a lot of lights. The trick was to do that and still make things look simple and real."



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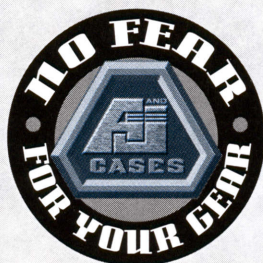


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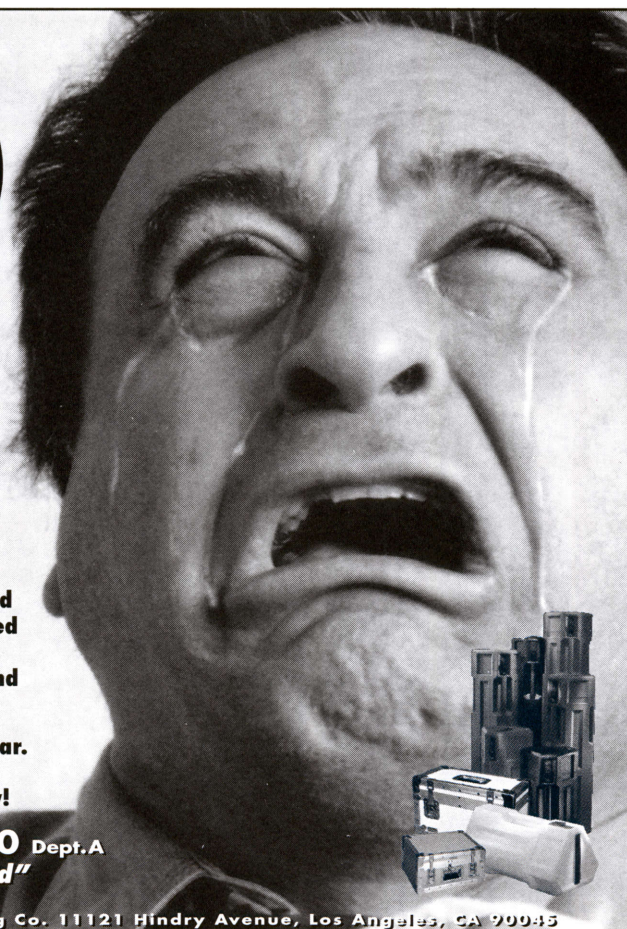
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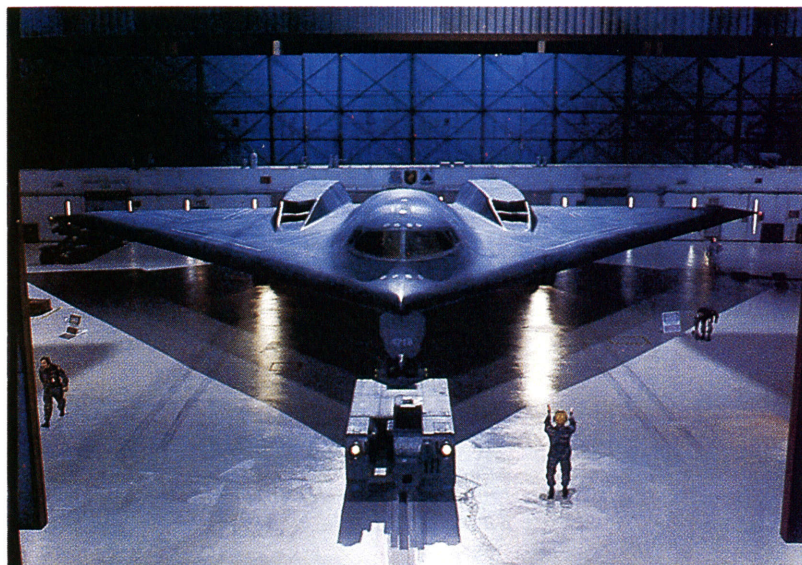
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The Right Virtual Stuff

A phalanx of CG effects houses were recruited to make a fictional B-3 Stealth aircraft fly high in the thriller *Broken Arrow*.

by David E. Williams



Film clip courtesy of Pacific Title Digital.

THE THEFT OF NUCLEAR WEAPONS HAS long been a Hollywood plot staple, forming the basis of such diverse films as *Dr. Strangelove*, *Thunderball* and *True Lies*. In the hit action film *Broken Arrow*, directed by Hong Kong action maestro John Woo and photographed by Peter Levy, the notion of stolen nukes is given a new edge of realism courtesy of digital special effects and convincing miniature work.

The film, whose title is Pentagon jargon for a missing or stolen A-bomb, involves a psychotic USAF Stealth bomber commander (John Travolta) who suddenly attacks and forcibly ejects his co-pilot (Christian Slater) from their high-tech craft during a top-secret training mission over the Southwest desert. After releasing their cargo of twin thermonuclear warheads, he also bails out — with the plan to recover the weapons and hold the U.S. government hostage for billions.

This outlandish plot created many filmmaking dilemmas, including 240 digital and optical effects shots tackled by a large



Photo courtesy of Peter T. Crosman.

team of companies that included VIFX, the Chandler Group, Sessums Engineering, Cinesite, Pacific Title Digital, Optical Illusions, WKR, Metrolight, Pacific Data Images, Matte World Digital, and Pacific Ocean Post. Overseeing the effort was Peter T. Crosman, a former Industrial Light & Magic animator and veteran visual effects producer/supervisor/director and Don Baker, a visual effects cinematographer with the Chandler Group. Crosman's recent credits include such feature projects as *Timecop* and *Tank Girl*, as well as many music videos and commercials, including the RCA television spot "UFO," which featured the company's canine mascots being

tractor-beamed into an awaiting alien spacecraft.

Crosman recalls of the initial *Broken Arrow* planning sessions, "The main thrust of it was, 'How are we going to create this Stealth bomber?' We knew we'd never get any support from the Air Force, since they rarely cooperate with films about crackpot pilots who hold cities for ransom with nuclear devices. So we had to flesh out the whole first act of the movie, which had a lot of flight sequences, with effects shots."

And as *Broken Arrow* was originally slated for release in the fall of 1995 (instead of the February 9, 1996 debut the film enjoyed) time was of the essence, compelling Crosman and effects producer Susan Zwerman to sub-contract multiple effects houses to meet the schedule. He recalls, "Basically, my job was to set out a menu of things we had to accomplish and consider which companies would best achieve those goals. Making those decisions was primarily determined by how a company was set up. For instance, Pacific Ocean Post is a relatively new company, and the Cineon machines they use are primarily a compositing tool, so they were ideal for digitizing and compositing pre-existing first-unit photography with the exterior aerial photography. You have to play to a company's strengths."

With that approach, Crosman had to build the audience's belief that *Broken Arrow*'s Stealth bomber was for real — and in many ways reveal it as a character of its own. He explains, "John Woo had very particular feelings about how the plane should be perceived as a dark force or entity."

Regarding the contracting of VIFX, whom Crosman had previously worked with on *Timecop*,

Top: The B-3 Stealth bomber awaits. This multilayered composite completed by Pacific Title Digital consisted of a motion-control shot of an actual hanger, multiple passes of a 1/6-scale model and three separate crewmen elements. **Bottom:** Director John Woo and visual effects supervisor Peter T. Crosman display a key thematic prop from the picture.

Ghost in the Machine and several other productions, he notes, "Only a handful of companies are capable of handling large numbers of shots that involve the kind of 3-D CG modeling we decided to do, including ILM, Digital Domain, PDI, Boss and VIFX, who have proven their overall ability."

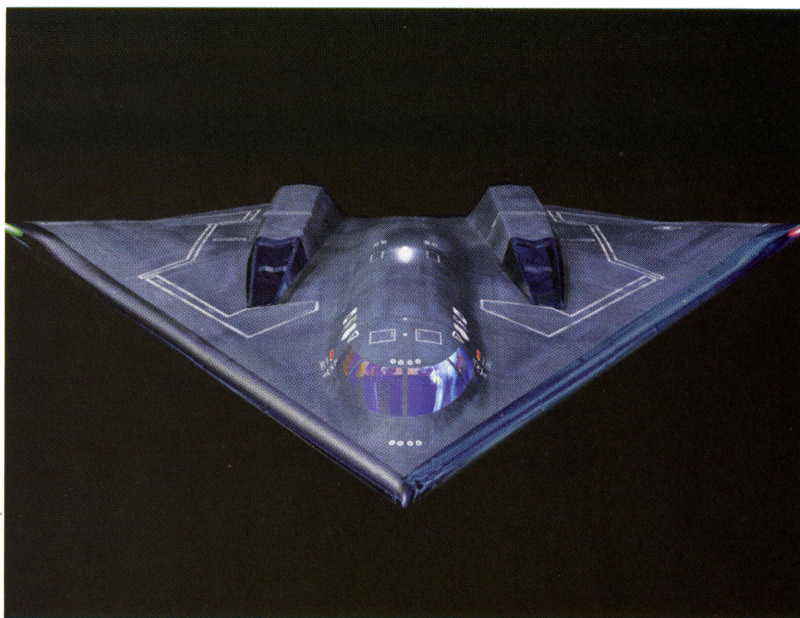
One of the first illusions demanded by the script involved creating the military base where the Stealth bomber was to be stationed, as the Air Force would not allow the filmmakers to use an actual location. The job of rendering the scenic establishing shot was assigned to Northern California-based Matte World Digital, where effects supervisor Craig Barron, digital matte artist Chris Evans, compositor Paul Rivera and CG modeler Morgan Trotter devised a deceptively simple approach to the task. Explains Barron, "Each element of the base — the B-52, several F-15s, the hangar and other buildings — were photographed separately and later composited together to create the location, which really only exists on the computer."

Choosing not to divulge the exact sources of the elements, Evans allows that "they were surreptitiously photographed on several local sites late at night." Real objects and structures, he maintains, were used whenever possible, since creating the realistic detail of rivets, metal textures and shadowing would have proved time-consuming in either CG or miniature. However, an off-the-shelf F-15 model kit was used to create a squadron of fighters after being repeatedly re-lit and shot separately.

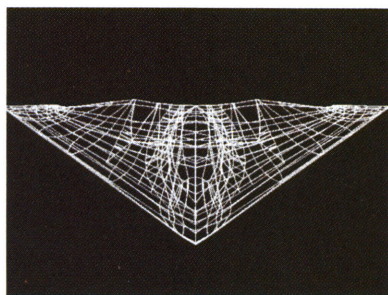
The elements were photographed in a VistaVision frame on Kodak 5293, which Barron notes "is important so we can be consistent with the grain structure of the rest of the production."

The VistaVision elements were scanned at Cinesite in Los Angeles, using the Cineon 10-bit process, and then brought into

Photos courtesy of VIFX.



Left: The CG bomber created by VIFX was used for all flying sequences and utilized texture maps of WKR's 1/6-scale model to create matching detail and surface characteristics between the two versions of the aircraft.



Matte World Digital's compositing program. To assemble this puzzle, Rivera utilized a Silicon Graphics Indigo XL and "Liberty 64, a 10-bit paint

package, which we used to cut, paste, blend and create most of our mattes. Then we brought that into Wavefront Composer for color correction and output."

Barron stresses, "We always use the 10-bit format because we feel the quality is necessary for the final [composite] to cut in perfectly with the production footage. Chyron, the company that created Liberty 64, makes special tools for us so we can do that without having to compress the images into the 8-bit format."

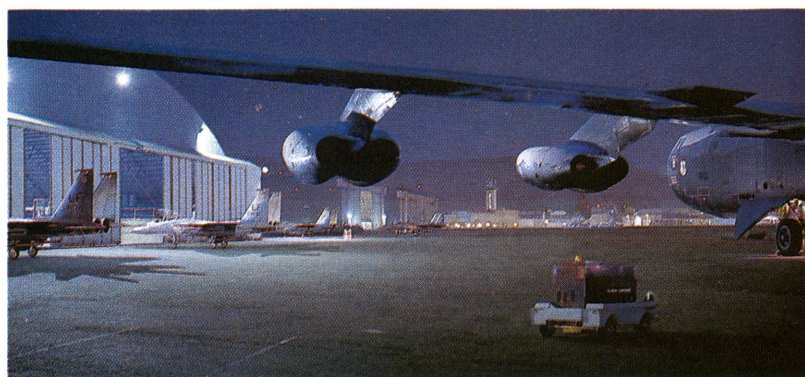
To add life to the otherwise static shot, blinking landing and tower lights were added, while Trotter inserted an F-15 rolling across the tarmac. The aircraft was a stock CG element purchased from Viewpoint, which "makes a variety of models in different amounts of polygons, which we rendered in ElectricImage," he reports. Gulf War news footage of F-15s supplied additional references for the modeler, while the coloring of the aircraft was supplied by the scale-model fighter which Trotter

digitized and used as a texture map on Viewpoint's wireframe version to maintain consistency between the supposed sister ships.

Barron concludes, "This wasn't just the case of taking a bunch of elements and cutting and pasting them together. They required a lot of digital painting, and had to be skewed to match perspective, shadowed and generally massaged quite a bit."

The first glimpse of the bomber itself is seen in the hangar established in Matte World Digital's airbase, with the camera seemingly sweeping over the bomber in several loving close-ups as flight technicians and the bomber's pilots scurry beneath its menacing delta-wing shape. Says Crosman, "We had to show this nonexistent aircraft on the ground in order to establish that our pilots get aboard, without building too much of it full-scale. This was handled beautifully by VIFX, with a 1/6-scale model built by Bob Wilcox and his crew at WKR. VIFX shot a motion-controlled pass in an actual hangar in Santa Monica, complete with a large overhanging silhouette shape to provide a real shadow on the floor. It was done on a very large scale, with Travolta and Slater walking out and the camera coming up over the plane just as John Woo wanted. They later did six passes of the model on their greenscreen stage. Don Baker and the Chandler team also did

Right: The airbase created by Matte World Digital was pieced together from elements "surreptitiously" photographed in VistaVision, such as a B-52 from the aircraft museum seen below. Real locations and artifacts were used whenever possible to avoid the time-consuming process of fashioning anything in CG from scratch.



one of those shots with the bomber because we had to subdivide all that work due to time constraints."

The compositing of that second shot, a craning move in on the aircraft finishing on the cockpit, was turned over to Pacific Title Digital, where executive producer Joe Gareri, in-house effects supervisor David Sosalla and digital artists Mimi Aber and Patrick Phillips fused multiple elements into a single image. Says Gareri, "We had worked with Peter [Crosman] previously on *Tank Girl*, doing scanning and recording, so we had developed a relationship leading to our working on *Broken Arrow*. Among the 15 or so shots we did for this show was the hangar shot, which was a multilayered composite of the bomber, the structure, reflections and crew people who had been photographed on a green-screen stage. In all, it was 10 layers of material, which was all supplied to us by Don Baker."

While discussing the shot, Baker, Gareri and Sosalla found some difficulties that required attention. "One thing was that the soldiers shot against greenscreen were wearing *green* fatigues," he notes. "That required something called difference matting, which allowed us to pull the green matte without conflicting with the fatigues. And while the shot has this downwards move in, [the soldiers] had been photographed static, which meant we had to track them to retain the proper angle and perspective during the shot. Otherwise they would just float or skate across the hangar floor as they walked out from under the bomber. We had to get our tracking coordinates from a number of places on the frame to make that look right."



Digital Images courtesy of Matte World Digital.

The elements were recorded in-house, and under Sosalla's supervision Aber and Phillips used Cineon software on the company's SGI workstations to do the tracking, pull the mattes and do the composite in a 10-bit, 2K format. "Depending on the level of detail in a shot, we will work in 4K, but 2K was fine for this one," Gareri notes. "Also, because of the number of houses working on this show, Peter thought 2K would be the way to go, as some people have an easier time working with that format. And if you know how to use the bits, you can make it work. With 10-bit you have quite a degree of latitude in your image."

With its pilots aboard, the Stealth ship was ready to take flight on its run across the desert. John Woo's relentlessly kinetic camera style soon determined how the bomber would be rendered in these flight sequences. In the attempt to capture the director's sense of movement, says Crosman, "We videotaped John describing how he would best place the camera during all of this air-to-air action. We wanted to know exactly what shots he wanted, as if we really had a bomber and a chase plane. And that made the numbers in my head start spinning because

he wanted the camera constantly moving around this plane.

"The proposed CGI solution for the aircraft came from Richard Hollander of VIFX and myself, and was one of the first things we began working on. As we completed tests on what would become a B-3 bomber — a redesign of the actual B-2 — it became a viable way to go. Miniature photography lends itself well to this kind of movement and has the high degree

of detail we wanted, but there's an expense in repeating things often enough to get both satisfying lighting and background motion. Tying those together was vital, since we knew we weren't going to shoot anything air-to-air. So a CG bomber and a virtual camera became the best means to achieve the movement John wanted."

Says Hollander of the decision to go digital, "You have to take the situation into account: it was a Stealth bomber on a *night* mission. I've done both CG and model scenarios and priced them out. If this was a B-3 in flight during the day, I *might* have used a model because of the detail and textures that would play with the light — but you have to go with the direction that gives you more flexibility and is cheaper. In this case, it was the CG solution. There were shots that we worked very hard on that we ultimately knew didn't work, but we had the flexibility in design to modify or completely rework them because we were using CG. If it had been a model shoot, they would have been either trashed or used and everyone would have been... *disgruntled*."

Continues Crosman, "The visual compromise in terms of detail — if there was one — was

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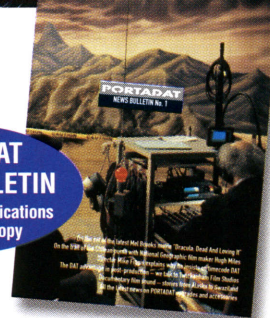
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worth the flexibility we could get in CG. And while there were some things that we puzzled over until the very end, like how the CG B-3 would interact with atmosphere and clouds — which CG doesn't do well yet — we overcame them."

In addition to the CG model, a full-scale cockpit section of the fictional plane, complete with interior instrumentation and an outer fuselage skin, was to be constructed for first-unit shooting with actors Travolta and Slater. The plan was for VIFX to later merge it with their CG model, revealing the complete aircraft. Says Crosman, "The cockpit was the one place where we had to agree on one plan and institute it for the CG plane, the full-scale stage and the miniatures. The proper route would have been to have one designer create the three-dimensional lofting plan for all three, based on the conceptual artist's designs. But as it turns out, we took parallel design routes. There are various theories as to why that plan went awry, but it did."

In short, the cockpit set would not match the scale model and CG aircraft.

Looking back at the situation, Hollander says candidly, "Here's a good example of a bunch of snafus coming together. We could have and should have built the cockpit ourselves. We followed the original lofting for our CG model, as did [WKR] who built the 1/6- and 1/24-scale miniatures — which matched perfectly. But the guy who built the cockpit did it wrong and that screwed us over, costing a lot of time and money."

Admits Crosman, "VIFX had quite a retooling job on their hands after they discovered the discrepancies in the design of the full scale cockpit stage. But its construction had to be completed early, so we could shoot the actors and get a jump on compositing the 60 or 70 plane interior shots. So VIFX took on the onus [of making the first unit's cockpit footage work for their exteriors] and they did a great job."

As Crosman puts it, the first-unit cockpit stage shoot "required outlandish greenscreen work, which is something you've seen lot of recently in films like

Under Siege 2: Dark Territory [see story in AC Dec 1995]."

Built around the full-scale B-3 cockpit was a nearly circular, 190-foot greenscreen standing almost 30 feet high, complete with proper witness marks to facilitate motion tracking for Woo's roving lens. "That basically allowed the freedom to shoot the cockpit sequences from almost any angle," says Crosman, "and the windows are designed for about 160 degrees of visibility. The interior greenscreen work — shots from within the plane looking out — were primarily handled by Pacific Ocean Post. And everything outside the plane was done by VIFX, which was much more difficult as it included creating atmosphere, the curved windscreen of the aircraft and adding backgrounds — in addition to rendering the entire B-3 around the cockpit and creating the movement of both the aircraft and camera."

Despite such complexities, Crosman reports that minimal restrictions were put on the first unit in terms of movement, although a locked camera was a precondition of days past. "We had to lay out certain guidelines with both John Woo and the cinematographer regarding greenscreen," he says. "For instance, really fast motion with the camera used to be discouraged because of the blurring effect the image would have from frame to frame; we basically live with it now. But there were certain speeds we thought would work better to avoid the 'vomit index factor' for the audience. Doing a 180-degree pan was discouraged. We also had a bit of trepidation about how thoroughly we could cover a full 180 degrees — the background for which we would have to create in the upper stratosphere while filming aboard a Lear jet. That's not easy, but it's possible."

"John knew our recommendations, but he primarily wanted to concentrate on the fight inside the cockpit — the action and emotion in the cabin. Don Baker actually shot some parts of that sequence because we were between cinematographers at the time: Lloyd Ahern left the production, and was later replaced by Peter Levy. It was fortuitous to have Don

at the time, though, because of his knowledge of greenscreen work."

Unique to the B-3's design is its large domed canopy. However, nearly all of the stage work was done without its characteristically bubble-like windows. Says Crosman, "That was very important in order to keep the sharpness of the lines and to avoid reflections. The windows were to be added later, at Pacific Ocean Post — where they did an incredible job of adding realistically distorted interior reflections derived from our background plates, although we did install a Plexiglas windscreen for a couple shots just so we could blow in atmosphere as the cabin decompresses and Christian Slater's character is ejected through the roof."

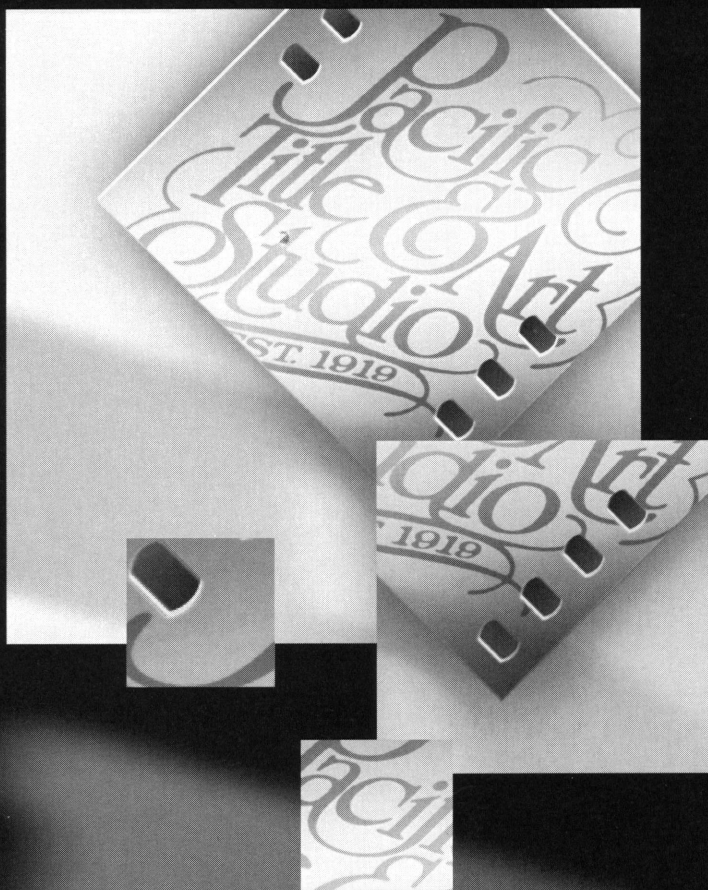
Upon seeing the footage from the stage shoot, Hollander decided that the best way to solve the matching problem was to completely envelop the full-scale cockpit with the CG model — leaving only the windscreen areas and cabin inside exposed. Unhappy with how that would work, however, he requested that the actors be brought back for further shooting. "We reshot with John Travolta and Christian Slater using our motion-control crane on our greenscreen stage," he begins. "First we got them in their flight gear, strapped in their seats against the screen, and then we did a take of just the rear cabin wall, creating them as separate elements."

Those pieces were then used to fill the windows of the CG aircraft like a 2-D digital projection screen, but the elements were further manipulated to allow correct perspective as either the B-3 or virtual camera moved within each shot. "It was really hard to make sure they didn't look like these flat little slices," Hollander says. "But it all turned out great." Also added to the digitized actors was a minor degree of spherical distortion which would be created by the aircraft's curved windscreen.

Hollander primarily utilized 5248 for his stage work with Travolta and Slater. "We're pretty flexible up to 96," he says, "but the grain structures on 48 are better for what we do. If there's already grain there, I have trouble removing it."

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But we can always add it later with any number of processes."

According to Crosman, "The full-scale cockpit was to be used primarily for close-up exteriors where we'd dolly around and see the pilots from a flying point of view. But it was used to a bare minimum compared to the CG B-3 material. We were very emboldened by VIFX's tests, so we used them for every range of photography, including medium shots and close-ups."

Filming the aerial background plates from a Lear jet and helicopter for the sequence, done by cameraman Jon Kranhaus, Hollander and Crosman, was equally problematic. Recalls Hollander, "Someone asked me, 'Why don't you just go out at night and shoot this stuff?' The answer is that it's just too dark. We also had a problem in that a black Stealth aircraft is impossible to see at night; you can see it only by watching the stars wink out as it passes by, which required us to achieve a moonlit look. So we shot plates day-for-night, creating two problems: accurately converting the footage to a moonlit look, and matching the motion of the backgrounds with what John Woo wanted to do with his camera around the B-3."

Says Crosman, "Wolfe Air provided the Lear jet and Jim Deeth was our pilot. We managed to find some storm clouds on the two occasions we went up and shot thousands of feet of film for the approximately 15 shots we needed for the flight sequence. We tried to shoot with minimal shadows, because if we had too much contrast, we feared that it would look too much like what it was. Unfortunately, we didn't get the overcast days we had hoped for, which would have diffused the light and minimized shadowing. So we ended up with some footage that was high-contrast and other stuff that was low."

Adds Hollander, "There was not only careful consideration for the contrast and shadows, but the choreography of our camera plane. It's subtle, but if you don't do it right, it doesn't work. But there are also the physical realities of the situation to consider. The

belly Vectorvision camera on a Lear jet can only pan and tilt so far, and if you are using wide lenses, you might see the plane itself. So instead of moving your camera, you move the entire jet, which resulted in a lot of difficult maneuvers that left us weightless inside."

"We also used the Arriflex 535 mounted in the nose," recalls Crosman, "which was a novel approach for our needs. We used a slow frame rate to boost our airspeed, which you could just punch in with the laptop remote."

"[With the helicopter,] the problem was that you're trying to create the illusion of flying through canyons at low altitude at 600 miles per hour, looking forward and sideways. For that reason, we flew extremely low with a Wescam, shooting at six frames per second, which gave us about 200 miles per hour. Then we could convert the frame rate [in digital post] to create a virtual two or three fps look, which was basically steady enough for us to use as a jet aircraft feel."

Adds Hollander, "We then needed to create our moonlit effect [for the plate footage] without just using a blue filter, which would have given it a 1950s look in which the contrast was all wrong. So we had to split up the layers of light that creates these hot spots on the horizon, a piling effect that happens during the day but not at night. We divided regions of the image and adjusted their contrast and brightness independently, then added a whole new sky with stars. Now, that's easy if you have your camera on a tripod, but we were constantly moving, so we had to track all this information across our landscapes. That worked pretty well, although it's still a bit bright for moonlight. Fox just didn't want it *too* dark."

Despite the heavy digital manipulation of the plate footage, Crosman reports that grain was never a problem, remarking, "With the Kodak 5293 stock we used, there's so much latitude in how you can colorize and balance the elements that there aren't any problems in matching, as there were when we used an optical process. But we did some things to limit the grain. Cineon has an amazing ability to remove grain to

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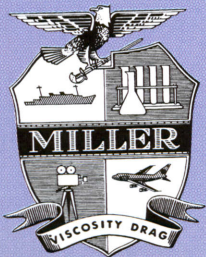
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a large degree, so there weren't divergent patterns in the interiors of the B-3 and the exterior landscapes. After the composites were done, we could then add a blanket of uniform grain over everything, which helps sell the shot."

Work progressed quickly on the bomber's flight sequences. "We took our raw plate footage and began running tests with our CG model immediately," says Hollander, "creating video animatic motion tests that John Woo could narrow down to what we really wanted. We had another crew simultaneously working on the final look for the B-3, which was very complicated. If you look at the aircraft's surface, you will see that it is made up of many shades of black and that there's a lot of detail. Because of the way the plane is constructed, there are patterns and bumps all over the airframe, as well as painted textures and military nomenclature. You can use texture maps, bump maps and shaders to create all of that technically, but it also has to be artistically correct, which is very difficult. Toward that end, one thing we did was to finish detailing and painting WKR's 1/6-scale B-3. Then we photographed that model from every angle, digitized those shots and texture-mapped them to our CG model, including all the insignia on the aircraft. They look quite identical, but we could have spent another six months detailing and painting the B-3."

Regarding the programming needed to create and composite the bomber, Hollander details, "The Alias system was used to create the architecture of the actual model and set up the overall structure and ordering for the texture maps, and then we used Side Effects Prisms to create the animation for the aircraft and Pixar's Renderman interface to render the final images. We made all three run together with some custom codes we wrote in-house. I'd say most of the problems we face are solved in that manner, taking the best aspects of different programs and patching them together. But most everything we do now is created in the Alias system, and sometimes animated there as well. Our backbone is Prisms be-

cause it gives us the most freedom. But we're also looking at a rendering program called Mental Ray that's been developed by Softimage/3D Extreme."

With VIFX's CG aircraft later composited into the reworked plate photography, some atmospheric effects and clouds were added to mesh the B-3 with its new environment. Hollander opines, "What's really fascinating to see is that this technology is becoming easier to understand and implement. It used to be that this work was 90 percent data processing and 10 percent art. Now those percentages are changing and will reverse at some point in the future — with the computers doing most of the work invisibly. And at that point it will be a real filmmaker's tool, just as the camera is now."

But at that point, what would be the role of the traditional imagemakers, the cinematographers? Hollander offers, "They won't be doing some of the things they are have done before, but they will also be doing things they can't imagine now. Cinematographers, even ones with no background in this area now, will be using CG in their imagemaking process. But I'll tell you, the cameramen I work with are so technically aware that they can follow the details of this stuff twice over. And as the rules of shooting for the digital process become fewer, they will take hold of the artistic possibilities it offers. Part of my profession will become theirs in the future, so cinematographers will become even more involved with special effects work than they are now."

Reflecting upon his experience with the multi-company approach taken on *Broken Arrow*, Crosman concludes, "It's going to be like this on all the big effects films because of the deadlines we're given these days. They just don't schedule us the time we need, so you have to throw the work out in pieces everywhere and hope everyone comes through. In this case, the various players delivered the goods in many more ways than we've discussed here. This film was an extremely complicated project, and the B-3 wasn't the only challenge."

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Box of Tricks

Quantel's Domino system helps effects wizards add pizzazz to *Mulholland Falls* and *Muppet Treasure Island*.

by Ron Magid

EFFECTS GIANT RICHARD EDLUND, ASC jokingly called them "optical Dagwood sandwiches" — multiple layers of elements composited a frame at a time via the cumbersome photochemical process. The advent of digital technology hasn't eliminated the Dagwood sandwich, but these days, it goes down a lot faster.

That's thanks in large measure to systems like Quantel's Domino, which can create complex opticals — including wire removals, color correction and compositing — in real time, at full film resolution. And that's not all. Remembers Mike Minkow, president of Computer Research Corporation, "I ran the Animation Department at Modern Film Effects in the old photochemical days, when we were working on *Apocalypse Now*, and I labored for weeks doing cel flopping to create a shot of several incoming helicopters. Nowadays, with one helicopter we could make a whole flotilla using the Domino system! If you have an understanding of film, you know what it would've taken to do these shots the old way, and in some cases, it would've been an impossibility. That's why I really appreciate digital technology: it opens up things you could only dream of. Now virtually anything is possible."

In this new digital world, the Domino has become a valued tool for companies specializing in digital compositing. CRC was the first company in the world to buy a Domino, and may be the only company in the world to own two of them, both of which they recently used to build dozens of "sandwiches" for *Cutthroat Island*, *Mulholland Falls* and the upcoming Tom Hanks feature, *That Thing You Do*. "We were so happy with the

first, we bought another," Minkow grins. "It's a wonderful tool for layering images, and it's the only system out there that can run real-time playback."

"One of the reasons we got the Domino is because it's very user friendly. There was a concern early on about finding Domino artists, but that soon disappeared. You don't have to be a computer whiz to run it; you just have to be familiar with Quantel equipment — either a Paintbox or a Henry or

removal and we comped moving background plates in the back window of a car interior that was shot on-set against bluescreen. Similarly, we added background plates out the side windows and through the cockpit of an airplane that crashes — shots that hadn't been designed as digital composites. Originally, they just had white light outside the windows of the interior plane set, the idea being that at high altitude, you wouldn't see anything out the window. Then we did a test where we put a background plate of [passing] clouds in one shot; they liked it so much, we put landscapes in all of what we called the 'fuselage shots.' We also tracked some aerial plates, showing the POV of the airplane going down, into the windshield of the cockpit, which was shot against bluescreen. The beauty of the Domino system is that it crushes, softens and adds blur to the mattes it generates so they don't look like the cookie-cutter mattes from

the old days. The Domino helped make this sequence very realistic; they don't look like matte shots."

It also helped CRC create some startling matte-painting composites. "One of the best effects

Top right: Shot on the high seas, an orange fishing boat created a frothy wake and clouds provided motion-tracking targets to enable Magic Camera's insertion of a 15' miniature pirate galleon (below) in Muppet Treasure Island. On a gimbal, the ship could be puppeteered to the wave motion of the digitally-stabilized plate, resulting in a convincing marriage (opposite) of the elements.



Photos courtesy of Quantel.

a Hal — and you can segue within a week or so and become pretty adept at the Domino. So we had a large workforce to choose from."

The ease and flexibility of the Domino came into play when CRC, who were initially asked to tackle 20 effects shots for the Thirties period piece *Mulholland Falls*, saw that number skyrocket to over 70. The Domino made it possible for CRC to accommodate the filmmakers quickly and economically. "What started out as a small project turned out to be a hefty one," Minkow confirms. "This was not a big effects picture, but there were a lot of little things we had to solve. It just evolved as more and more shots needed to be tweaked, fixed and enhanced. We did some wire





shots was what we called 'the crater shot,' where we had different angles of a digital matte-painted atomic bomb-blast crater," Minkow recalls. "We supervised the shooting of the background plate, which had a tilt-up move, so when we shot the plate, we left some markers off in the horizon that we could track. Back at CRC, we used the Domino's excellent four-point tracking to match that tilt-up move exactly on the digital matte painting Bob Schiffo had created on a Macintosh. Afterwards, we married the plate and the matte on the Domino. The matte painting laid in beautifully and really looked terrifically believable. We also used the Domino to correct the color of the crater in the original painting so it would cut into previous shots. After our first composite, the painting didn't look sandy enough, so we went back with the director of photography and played with it and got it to look much more like the landscape. With the Domino, you dial it in and wait for it to process."

From the gritty reality of Depression Era Los Angeles to the never-neverland of *Muppet Treasure Island*, a high-seas pirate adventure starring Kermit the Frog and Miss Piggy, the Domino proved its versatility this year in project after project. Alan Marques, visual effects supervisor at England's Magic Camera effects house, suggests that one rea-

son for its success may be the system's effortless interface with 3-D computer imaging platforms such as those built by Silicon Graphics: "We used a mix of SG and the Domino on various films, including *GoldenEye* and *The Wind in the Willows*. We were already established with seven Silicon Graphics workstations, including a Challenge for rendering. Quantel has a well-sorted interface with SGI, so we could easily move back and forth between the two. We used the Domino for scanning and film recording. Then we elected which shots needed to be worked on in the Silicon Graphics environment — such as any [shots] requiring 3-D computer graphics — and then comped those finished elements on the Domino."

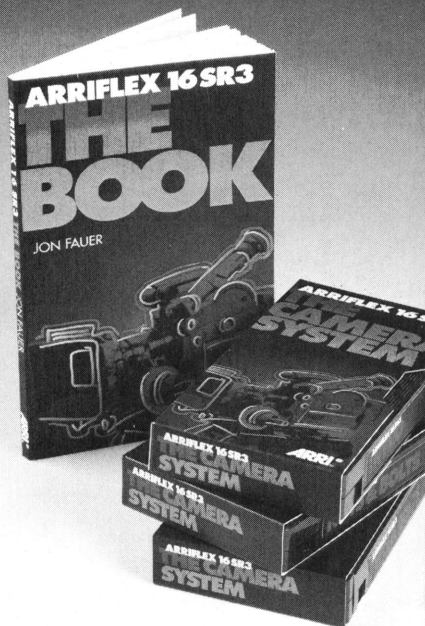
For *Muppet Treasure Island*, Magic Camera found that the Domino's tracking system enabled them to create some intricate illusions, and to experiment over and over again until the filmmakers were pleased. "The Domino's particularly good at certain things like heavy motion tracking," Marques observes. "It's very fast because Quantel designs their systems so that their software is locked very closely with what their hardware can do, which means that the Domino can move cut-out mattes around very quickly, and there are dedicated high-speed sections of the board that handle motion tracking semi-automatically.

Quantel has had a lot of experience at tracking things, which comes from doing image recognition systems for the military, so there's quite a lot of intelligence built into their motion-tracking system. The resolution the Domino works at is 2880 by 2048, which is approximately 3K by 2K, and watching it motion-track is quite impressive: it's about one frame per second, which, believe me, is fast."

Recent advancements in motion tracking by Quantel enabled the Domino to track images on *Muppet Treasure Island* that had very little in the way of x-y-z coordinates to latch onto. One of the major effects challenges faced by Magic Camera was to replace a real fishing boat at sea with a 15' miniature pirate galleon. "We brought in the Domino FST, the high-speed version of the Domino, specifically to do *Muppet Treasure Island*," Marques reveals. "We had to use that machine here because it could do multiple motion tracking. The previous version had only one motion tracker, so we couldn't get rotational or scale information out of the background plate, which meant we couldn't have done these new shots.

"It's amazing what you can track on. In one shot of a fishing boat in the sea, the only place I could get the rolling of the plate from was the clouds in the sky. I got an absolutely perfect track by using two points off two different

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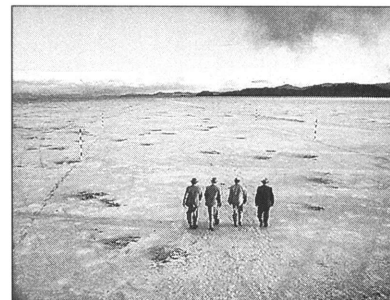
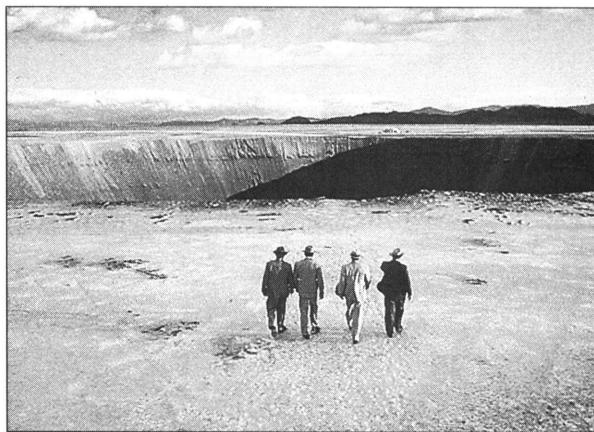
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CRC's Mike Minkow credits the Domino's four-point tracking ability for facilitating a tilt-up move in the composite "crater-shot" from Mulholland Falls.

parts of a cloud! I had to find a bit of detail in the cloud, but once I found something I was able to extract the motion in the plate from clouds. It's amazing how it can track on something that is actually quite amorphous and soft."

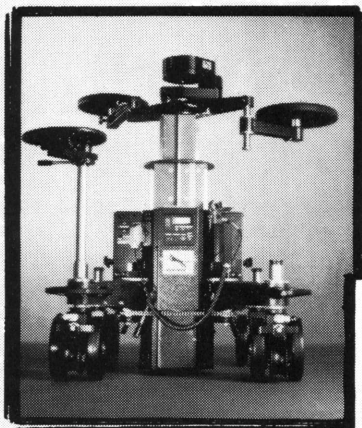
Magic Camera ended up comping four shots of the miniature galleon at sea. The goal was not only to replace the orange fishing boat with the miniature, but to perfectly translate the motion of the live-action boat to the miniature — another tracking nightmare. "The whole point of the orange fishing boat was that it generated a white wake; the hope was that if we did our job right, they would get the galleon miniature in the real sea plus the real wake at the back of the boat," Marques explains. "It hadn't really been done before, and that was the reason we elected to use the Domino — the speed at which it can motion track, because it does it in hardware. Using the orange fishing boat meant we could get a color key and pull a good matte off it. Before the galleon was puppeteered to match the movements of the orange fishing boat, we aided the puppeteers by stabilizing the horizon line in each of the background plates so it was horizontal. Generally, we extracted the camera motion on the Domino by tracking off the two extreme points of the horizon line. There were a couple of tricky ones, like the rear shot of the boat at sea, where the camera boat was actually pitching left to right so the whole plate was sliding. Since the horizon was dead flat, there was no way to track the side-to-side movement because there was nothing to lock onto; the sky was completely bland, with no clouds or anything, so it appeared that we could only track the up-and-down motion. We



were ultimately able to track the side-to-side movement off a big mast sticking up on the fishing boat in the water; by adding the up-and-down motion we tracked off the horizon line, we were able to stabilize the plate in the Domino.

"Once we eliminated one of the axes of motion in the shot — that of the camera boat at sea — the Henson puppeteers didn't have to worry about the camera boat wallowing from side to side; they could concentrate on puppeteering the 15' galleon to match the pitching of the boat it would replace. The Henson puppeteers rocked the boat on its gimbal, choreographing its movements to the stabilized plates on a video player. The galleon was shot by a stationary high-speed camera on a stage at Shepperton with a wind machine to get the sails billowing correctly."

But the galleon miniature still had to be match-moved into the background plate. Magic Camera initially tracked data off two points on the orange fishing boat in the original photography. "That gave us the x-y position and the rolling of the fishing boat, which we were able to use to input the galleon and give it a sympathetic motion," Marques remembers. "Once the galleon miniature had taken up the motion of the fishing



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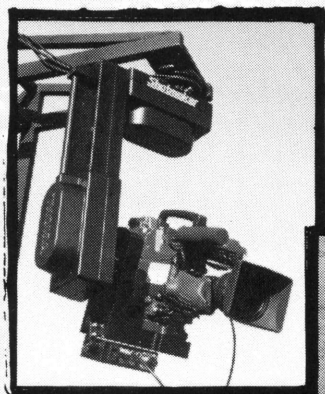
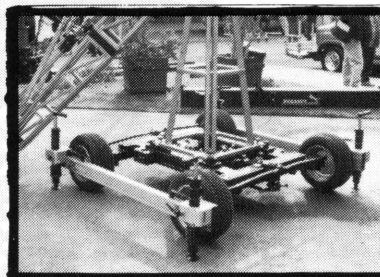
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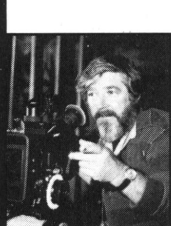
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boat, we comped it into the shot and destabilized the plate to add back the original camera boat motion, which worked very well."

The final shot of *Muppet Treasure Island* was a whopping 43-second cut which put the Domino system to the test in almost every conceivable manner. In fact, the sheer length of the shot alone would have been a considerable

"Quantel has had a lot of experience at tracking things, which comes from doing image recognition systems for the military, so there's quite a lot of intelligence built into their motion-tracking system."

— Alan Marques of Magic Camera

obstacle. "There's no way we would've wanted to do that on our Silicon Graphics machines, especially since we don't have an SGI Onyx," Marques admits. "With all the motion tracking required, it would've taken us ages to do that shot on SG; we would have had to spread the three elements among various disc arrays. Under those circumstances, the Domino really came into its own. It was *fast*. We have the Domino Double Four system, which holds 3000 frames — about three minutes — at full resolution. The Double Four also enabled us to generate elements and then archive them to D1 tape, which is incredibly fast by comparison to almost anything else. That gave us a very nice way of slipping those elements off to D1 so we could do something else on the Domino, then pull those elements back on again to finish the shot."

But length was only the first hurdle for Magic Camera to overcome in completing *Muppet Treasure Island's* final shot. Not only was the fishing boat removed, the plate stabilized and the galleon miniature added, but the shot was continuously being changed by the filmmakers. "They made a lot of changes, and it went on for a long time — months," Marques recalls. "Fortunately, the Domino is quick to make changes. We ended up doing the end shot four times. They actually asked us to flop the shot left to right, then asked us to flop it back again! Then they wanted us to

take the roll off the sea and lock the shot off so they could run their credits over it and not disturb the public. We basically locked the horizon off, took the motion of the boat, put the galleon in and also added a bird flying into the shot which came from another plate. Then they said, 'Actually, we're thinking about replacing the sky,' and after we did that, they said,

'We don't like that sky; we want another one.'

"But the key element was the sunset," he adds. "The original plate was actually a sunrise

shot filmed at sunrise, so the whole plate was [designed that way,] with the galleon model shot and lit to match the sunrise. [Despite that,] they told us, 'Actually, we'd like this to be a sunset now!' So we had to regrade everything — the boat, the sea, and the sky — and make it appear to be a sunset, which looked very nice. We did whole shots for them in literally three days. If we'd been asked to redo shots like that on the Silicon Graphics Indigo2, we'd be looking at a month to redo them, whereas this way we could turn the end shot around in four days."

From *GoldenEye* to *Mulholland Falls*, from *Muppet Treasure Island* to *The Wind in the Willows*, from the UK's Magic Camera to the USA's Computer Research Corporation, the Domino system has proven that it can provide filmmakers with unprecedented speed, flexibility and cost-effectiveness in image compositing. By reducing the load of the multi-element "Dagwood sandwich," the Domino has brought the digital revolution one step further by making the tools so accessible to filmmakers. "The Domino's pretty flexible," concludes CRC's Minkow. "The director can sit in the room with the operator and get instant gratification while he waits. If we show him one frame composited and ask him what he likes or doesn't like about the shot, then everything else quickly falls into place."

WHEN SOUND WAS FIRST INTEGRATED into the palette of moviemaking, it was used in awkward, obvious strokes that often proved to be little more than a stunt to distract the audience from the movie instead of involve them in it. Now, some 73 years later, sound is a careful, subtle, and vital part of the craft, used to heighten the audience's enjoyment of and involvement in the film.

CD-ROM technology, which was initially developed as a storage medium for computer data, is at the same period of development that sound was in the early days of motion pictures. Unlike the evolution of film sound, however, digital computer technology is maturing at a rate unprecedented by any other type of media tool.

CD-ROMs now offer full-motion video, state-of-the-art audio, and imaginative use of text and graphic images. The standard CD-ROM using video compression can hold up to 65 minutes of VHS-quality video, which translates to 650 megabytes of computer storage space. These 650 megabytes of video, audio, text and graphic images have been translated into gaming and educational applications, called "edutainments," which allow the player to dictate the actions of the main character and manipulate the direction of the game.

This "interactive" entertainment is somewhere between movies, novels and games — marrying as it does the videogame (the majority of CD-ROM titles are video "twitch" gaming applications that combine digital animation and live action) with the narrative visual possibilities of film and video. This budding entertainment form requires more than just programmers and design engineers; it calls for filmmakers with a sense of craft and skill who can navigate through fiscal and technical limitations.

Tony Cutrono, one such pioneer in the field, has worked on a number of CD-ROM titles for companies such as Knowledge Adventure, which is developing several that incorporate Hollywood feature-film production values. Most recently he served as director of photography on the

Now Playing at the Cyberplex

CD-ROM "edutainments," such as the Knowledge Adventure/Amblin' Imaging co-production *Movie Maker*, have opened up a new realm of opportunities for filmmakers, particularly cinematographers.

by Alfred D. Harrell



Movie Maker incorporates multiple hot spots to activate the game's various functions and directions, as well as an integrated 1.85:1 screen for the full-motion video segments.

company's CD-ROM *Movie Maker*, an interactive game in which the player is assigned by Steven Spielberg to direct a movie; the goal is to move from low-budget films to A-list features. Knowledge Adventure's Roger Holzberg, who executive-produced and designed *Movie Maker* with Spielberg's Amblin' Imaging, describes the title as "an entertainment game where the end result is the creation of entertainment — a movie." The live action, directed by Spielberg himself, also co-stars *Pulp Fiction* director Quentin Tarantino, Penn and Teller, and Jennifer Aniston of the television series *Friends*.

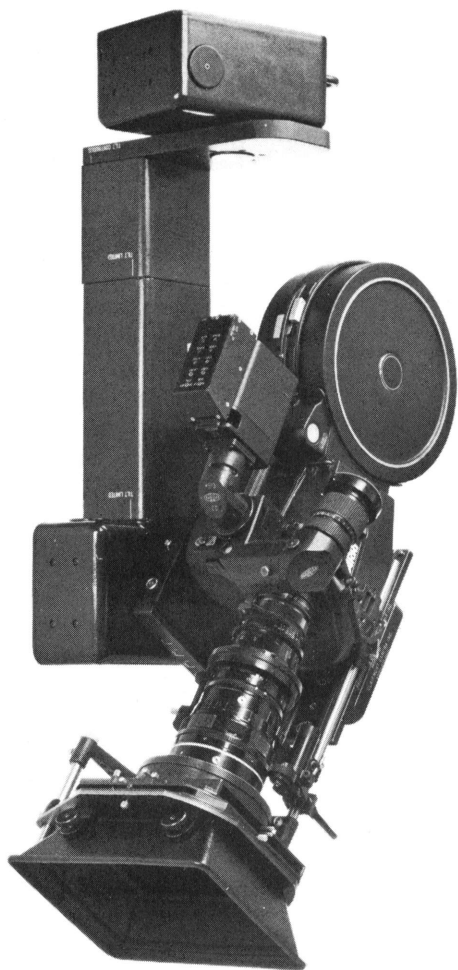
Cutrono was hired specifically for his television and feature film experience with bluescreen and effects photography. Having worked for a number of years in television (*Dinosaurs* and *Land of the Lost*), as well as on second-unit

and effects photography for low-budget films (*The People Under the Stairs* and *Pet Sematary 2*), Cutrono is also familiar with humble budgets and strained resources. He believes that the live segments of CD-ROMs are a Nineties training ground and arena for visual experimentation, just as music videos were in the Eighties.

Like the earliest music videos, most CD-ROM game titles, including *Movie Maker*, are shot on videotape, for both cost considerations and for ease of compression during digitization into the computer. The creators of *Movie Maker*, however, were aiming for feature-film production values.

"Steven encouraged me to make it look like a film, from lighting to camera moves," Cutrono says of the project, which was shot in the 1.85 aspect ratio. "Generally, when I'm working on videotape

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and the client is okay with it, I'll light as I would for film."

Lighting in a "film style" creates specific problems due to the inherent limitations of CD-ROM technology. One such limitation is the fact that CD-ROM "sets" are sometimes computer-graphic images, usually composited before any of the live action is shot. (In the case of *Movie Maker*, they were created by Amblin' Imaging.)

Cutrono combats the problems of determining video levels, contrast and aspect ratio for digitally-created sets and lighting sources by "making sure the engineers and programmers send me a template — a test screen, basically — so that my video engineer can set up the aspect ratio and feed it back to me through the video camera. This way I always have the proper framing. It may be off by one percent or something, but it's close enough so that lights are not in frame. It's not SMPTE; we're lining it up by eye."

Cutrono's live-action footage also has to match the surface textures and light and shadows mapped out by the computer-created sets, so he lights the actors and foreground pieces so that they can be integrated with the digital opticals. "Sometimes the animation isn't done beforehand, and I'm able to [say to the animator,] 'I'm thinking about doing this; could you give me a source coming from this direction and a little color coming from that direction?' We build it in and the animator changes his animation to match what we did on stage."

Cutrono adds, "Just like a feature, where your greenscreen work has to match the first-unit cameraman's lighting plan — the lighting grids, the T-stops, coloration of the lights, choice of lenses, and the camera's distance from the actors — it's really important to have either a rough animation or the animator on the set, so you can see where your light sources are coming from.

"What I do [on CD-ROMs,]" he says, "is exactly what I do on film. I use blue light on the bluescreen and keep it off the character. I light the bluescreen separately from the character and never let them interact with each other. If

there's too much separation or the backlight is too hot, a good engineer will say it's too hot. With tape, my rule of thumb is to go a stop under the bluescreen, maybe even two-thirds of a stop or a half stop. It saturates a little more if it's underexposed and not overexposed.

"The video engineers I have worked with are great," he enthuses. "They have allowed me to make my bluescreens nice and clean. I haven't had to deal with the mindset that 'it's videotape, so we have to pump up the light to 100 percent of the bluescreen.' That idea causes problems: if you put too much light on the bluescreen it desaturates instead of saturates."

One benefit of digital sets is that they prevent that onus of feature-film bluescreen photography, blue spill, which occurs if a shiny object within a scene gets too close to the bluescreen, calling attention to the fact that the background isn't real.

Besides the limitations of shooting against a bluescreen where shot choice dictates cost — a full shot of someone against a bluescreen costs more than a medium or close shot — there is also the issue of "disk real estate" to consider. Although CD-ROMs can contain up to 65 minutes of video, most must also allow room for sound, text and audio data to be included with the digitized video data. Because of this, the 65-minute max is never reached on a CD-ROM, although development of high-density CD-ROM disks may soon change this.

"Whenever Steven or I would agree to a shot that may have been too long, Roger Holzberg would say, 'We may not have enough disk real estate to shoot that master,'" Cutrono recalls. "It wasn't like a picture, where you can just shoot. By the end of the shoot, we were over: we'd shot too much to squeeze onto the disk."

Maintaining the image quality of the live-action segments of CD-ROMs once the footage is digitized and compressed is probably the greatest challenge of the medium: the resolution of compressed video footage at 30 fps is significantly less than that of a computer monitor. For an ambi-

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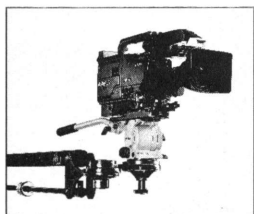
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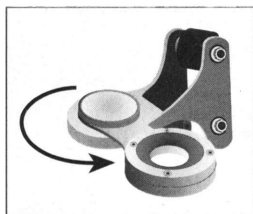
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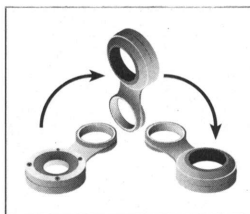
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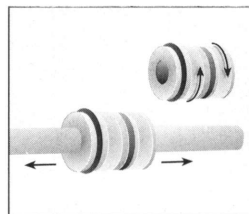
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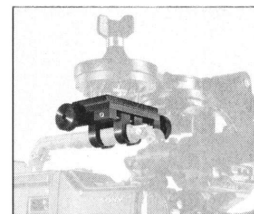
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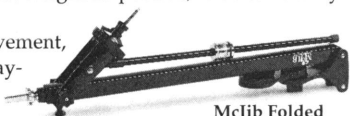


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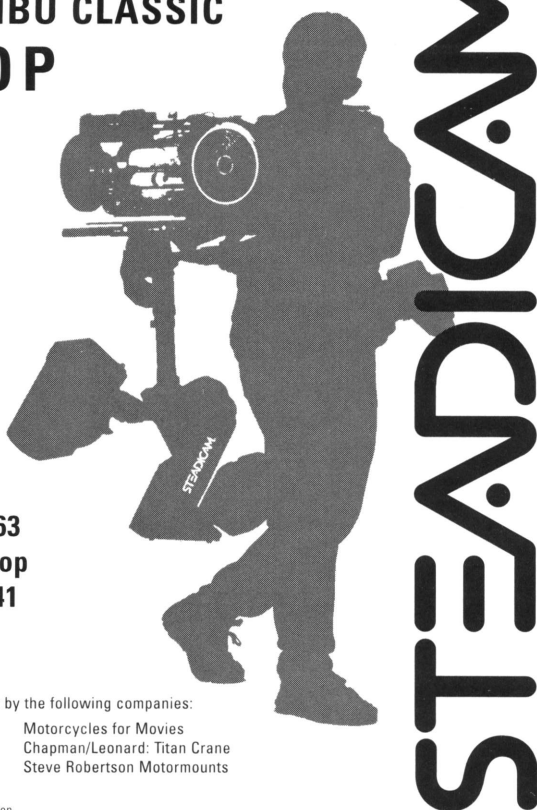
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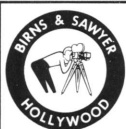
tious project such as *Movie Maker*, shot in a motion-picture aspect ratio (1.85) rather than television's 1.33 and at a higher resolution than most titles — closer to that of television — this limitation proved even more crucial. As Holzberg says, "The footage is the star."

Cutrono shot the live-action footage with a Sony broadcast camera. Seeking a clean image in terms of sharpness and grain, he used a very clean lens and little, if any, diffusion or smoke on the set. "Diffusion tends to flatten the image out," he explains. "I like nice contrasty images so that by the time the image is compressed, the image looks slightly diffused. If an image is contrasty, then generations down the line at least there will be shadows and black, not video mush."

Careful control of contrast and color was the key to producing the look he was after. "I had color-control units for the engineer so that he could control colors in the camera. I would trust the engineer to match from shot to shot, because a lot of times I wouldn't have time to balance light perfectly." (Spielberg often averaged 85 setups a day.)

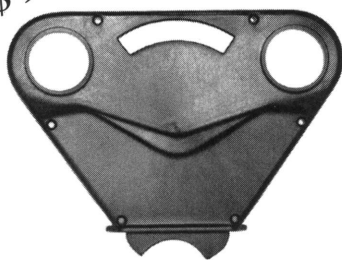
Cutrono stresses the importance of staying abreast of the photographic and technical programming needs of this hybrid cinematic craft, which blends traditional special effects and blue-screen techniques with digital technology. He envisions CD-ROM as a new electronic canvas upon which camerapersons can experiment with light, color, composition and new ways of storytelling; the challenge is in keeping up with the software and hardware that expands the depth and texture of this creative realm.

"Whether it's CD-ROM, television or feature films, the images should look great," Cutrono says. "The production should have great camera moves and great compositions. And with CD-ROMs, a director of photography who can maintain the integrity of the shot while saving production costs is a valuable asset."



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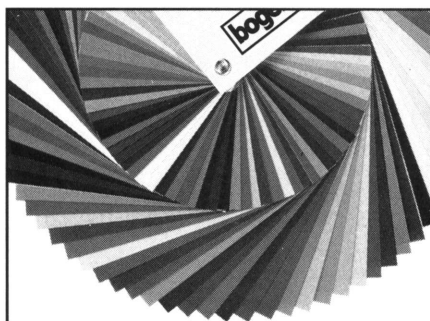


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Sundance '96: Of Cel Phones and Celluloid

An increasing influx of industry movers and shakers has transformed the formerly low-key film festival into a *de rigueur* entry in Hollywood's day planners — and a Wild West arena for indomitable dealmakers.

by Stephen Pizzello and Michael X. Ferraro

AS A FORMER SILVER-MINING BOOM town, Park City, Utah is accustomed to an annual influx of fortune seekers. These days, however, visitors come armed not with picks and prospecting implements, but with cellular phones and screening schedules.

The motivation for this yearly migration, of course, is the Sundance Film Festival, held each January in a town where silver lodes have been replaced by ski lifts. Since its inception as the U.S. Film Festival in 1977, the Sundance fete (renamed in 1985) has undergone an almost alchemical transformation of its own; once a quaint, quiet celebration of the independent film aesthetic, the festival is now a focus for agents, distributors and studio executives who, in their quest for cinematic bullion, are as zealous as the characters in John Huston's *Treasure of the Sierra Madre*.

In fact, the atmosphere at this year's festival often evoked the Wild West in almost literal ways. One sure-to-be-legendary incident was the now-infamous showdown over the U.S. distribution rights to *Shine*, an audience favorite from Australia. The film's January 21 world premiere at Park City's Egyptian Theatre provoked a frenzied bidding war that culminated with Fine Line Features outfoxing Miramax Films, prompting vociferous

company chairman Harvey Weinstein to perform a respectable impersonation of a Sergio Leone-style gunslinger as he confronted the film's representatives at a local Italian eatery.

Given the colorful backdrop of corporate blood feuds and celebrity sightings, it was easy to lose sight of Sundance's real purpose, which is to give exposure to films that are often more intriguing and adventurous than mainstream fare. Thankfully, amid the scramble for "hard tickets" and seats on the town's fleet of cinema shuttles, the festival offered a diverse array of cinematic options. Those who trudged through the relentless snowfall — an accumulation of some 10 feet over the event's 10 days — were rewarded with thought-provoking filmic fare. Although some of the pictures in the festival had already attracted distributors, a great deal more benefited from the chance to impress Hollywood honchos — especially the truly micro-budget works that were showcased in the Slamdance International Film Festival, a renegade offshoot of Sundance that managed to operate in relatively peaceful co-existence with the main event.

With an array of films from which to choose, AC's viewing duo managed to take in nearly two dozen offerings. In addition to

a list of the Sundance award winners (see facing page), we are happy to offer a more in-depth look at the entries we found to be particularly promising. — S. Pizzello

FESTIVAL FAVORITES:

Welcome to the Dollhouse (U.S.)

Director: Todd Solondz

Cinematographer: Randy Drummond

For many who grew up in the American suburbs, junior high school was more like a stay on Alcatraz Island than an episode of *The Wonder Years*. Displaying a very black sense of humor and a jeweler's eye for detail, director Todd Solondz highlights the horrors of that awkward stage of life in *Welcome to the Dollhouse*, which earned the filmmaker Sundance's Grand Jury Prize.

Perhaps the film's greatest virtue is its tricky balance of sly sociological comedy and genuine teen angst. Certainly, Solondz never sentimentalizes the plight of his 11-year-old protagonist, Dawn Wiener, a.k.a. "Wiener Dog" (Heather Matarazzo), a gawky outcast who is tormented endlessly by both her sadistic peers and callous family. Set in suburban New Jersey, *Dollhouse* documents every grim nuance of Dawn's day-to-day misfortunes — from her moony-eyed, unrequited crush on a studly high-school guitar hero to her flight from the uncouth advances of a sexually frustrated delinquent. Along the way, Solondz creates a skewed and slightly stylized visual universe that lies somewhere between the present and the recent past.

"The movie is contemporary, but I wanted it to be somewhat evocative of earlier times, particularly the Seventies," Solondz relates. "I talked about the look with both the production designer, Susan Block, and the director of photography, Randy Drummond. The sets were decorated with bright, cheery furniture that looked as if it was 20 years old but hadn't been kept up very well. So in the movie, everything looks a little bit faded and pathetic. As a result, the atmosphere is ironically a bit more depressing than it

would have been if the characters hadn't chosen such cheery furniture in the first place. Dawn is trapped in this world that imposes a veneer of happiness without really providing any."

Drummond augmented that ambience by steering clear of the flat-lit look typically associated with films about teens. The cinematographer shot on Kodak's 5293 (rated slightly slower than the recommended speed), and used very little filtration. He also avoided the types of exaggerated angles and perspectives that commonly crop up in films with a satirical bent. "I didn't see the film as a comedy, which really affected my choices in regard to lighting and lenses," he says. "Todd wrote such an honest, true-to-life story about this little girl that I felt my job was to provide images that were real and that everyone could relate to. We all remember what our junior high school looked like, so I drew upon my own childhood as a source for the images."

Drummond's memories lent a particularly effective mood to a scene in which Dawn and her delinquent pursuer, Brendan, are forced by a teacher to stay after school. "You're very seldom in a classroom at that time of day, when everyone else has gone home," he notes. "When you're stuck after school like that, the outside world never looks more beautiful. So I tried to make everything beyond the windows look really gorgeous, including this light that was streaming in. We played with our gels until we came up with the color combination we wanted, which involved a mix of ambers and CTOs."

Still, as Solondz points out, "The photography was designed to serve the performances. If people had walked away from the movie saying, 'Oh, beautiful photography,' I would have known that I had failed as a director. I didn't want to make caricatures out of these kids by using all kinds of crazy dutch angles and things like that. We wanted to respect them as human beings and bring the audience into their world."

The director's Sundance triumph caps a mercurial comeback into the film world, which he

had previously abandoned after a brief flirtation with the major studios. While attending NYU's film school, Solondz made a series of shorts that attracted three-picture deals from both 20th Century Fox and Columbia. "I suppose that's what every film student dreams of, but as it turned out, the only thing I liked about the deals was telling everyone I had them," Solondz admits. "In the end, I had an unhappy experience making a movie [1989's *Fear, Anxiety and Depression*] and left the business altogether."

After a rewarding stint teaching English as a second language, Solondz was coaxed back into filmmaking by a lawyer friend who had attracted investors for a low-budget filmmaking project. Solondz dove back in, and the gamble paid off spectacularly.

"I wrote *Dollhouse* six years ago, really to redeem myself from my very unfortunate Hollywood experience, and then I just let it sit in a drawer. I truly didn't believe that there would be an audience for this type of movie, and I'm still astonished at the response we've had."

Welcome to the Dollhouse will be distributed by Sony Pictures Classics. — S. Pizzello

Shine (Australia)

Director: Scott Hicks

Cinematographer:

Geoffrey Simpson, ACS

After earning a standing ovation at its January 21 world premiere, which led to the aforementioned bidding war between Miramax Films and Fine Line Features, *Shine* went down in the books as this year's official Sundance *cause célèbre*. A clear audience favorite, the film already has industry experts laying odds about its Oscar prospects. Slated for release sometime this fall, *Shine* should indeed be well-positioned to impress Academy voters.

The picture tells the inspiring true story of David Helfgott, an Australian pianist whose prodigious promise was cut short in his teens, when the relentless pressures of musical competition led him to suffer a severe nervous breakdown. Raised by his domineering father, Peter, a Polish

Jew whose own strict rabbi father had forbidden him to play his beloved violin, David became the focus of the elder Helfgott's frustrations. After David's talent earned him a scholarship to study music in America, his father, unable to bear the departure of his only son, forced him to turn down the opportunity.

The youth later defied his father by accepting a subsequent scholarship to London's prestigious Royal College of Music, but the demands of his genius, coupled with his isolation from his family, eventually caused him to suffer a debilitating mental collapse. After spending years drifting in and out of various institutions, Helfgott landed a gig playing the piano in a small bistro in Perth, and his success there led to both a happy marriage and a heartwarming return to the concert circuit.

SUNDANCE AWARD WINNERS

Grand Jury Prize:

Welcome to the Dollhouse (drama), producers Todd Solondz, Ted Skillman; *Troublesome Creek* (documentary), Jeanne Jordan, Steve Ascher.

Cinematography:

Color of a Brisk and Leaping Day (drama), Rob Sweeney; *Cutting Loose* (documentary), Andrew Young.

Freedom of Expression Award:

The Celluloid Closet, producer/directors Rob Epstein, Jeffrey Friedman.

Waldo Salt Screenwriting Award:

Big Night, Stanley Tucci, Joseph Tropiano.

Special Jury Awards:

When We Were Kings (artistic merit), producers David Sonenberg, Leon Gast; *Girls Town* (collective spirit), producer Lauren Zalaznick; Lili Taylor (performance), *I Shot Andy Warhol*.

Audience Award:

Care of the Spitfire Grill (drama), producer Forrest Murray; *Troublesome Creek* (documentary).

Filmmakers Trophy:

Jim McKay, *Girls Town* (drama); Andrew Young, Susan Todd, *Troublesome Creek* (documentary).

Latin America Cinema Award:

Madagascar (Cuba), director Fernando Perez.

Short Filmmaking Award:

A Special Domain, director Britta Sjogren.

Spanning the entire arc of Helfgott's life, and never shying away from the more wrenching interludes, *Shine* is the kind of picture that opens up tear ducts; many viewers at the Sundance premiere wept openly during the more emotional passages.

Director Scott Hicks says that he first became interested in Helfgott 10 years ago, when he read a newspaper item announcing the pianist's return to public performance. He attended one of Helfgott's concerts, and was struck

which in dramatic terms meant that the film was going to move into some very dark places," Hicks notes. "So right from the beginning, I told Geoffrey [Simpson,] 'Let's not be frightened of shadows or darkness; let's let those elements work for us. I wanted a very dense negative with a lot of contrast, and Geoff really pulled that off, especially during the childhood sequences, where you often see David's father lurking in the shadows. Later in the film, things start to brighten up as David's prospects improve, mirroring his personal emergence from darkness.'"

A self-confessed addict of "the wide-angle close-up," Hicks says that he and Simpson exploited this tactic to the fullest. "When you have such wonderful actors, close-ups always add an immense power to the visuals. Because we knew we'd be working so close, we shot the film with an Arri 535, because it's completely silent and is less likely to disturb the actors during a scene."

Simpson, who first worked together with Hicks on a 1982 documentary about the Los Angeles Festival for the Arts, lent an accomplished eye to the project. A veteran of such features as *The Navigator*, *Green Card*, *Fried Green Tomatoes* and *The War*, the cinematographer says that the duo's prior work together (which also included an Australian television movie titled *Call Me Mr. Brown*) helped speed up the creative process. "I have a strong sense of what Scott likes," he says. "We used our wide Zeiss lenses quite a lot, especially the 20mm, 24mm and 28mm. But in other instances we used a more normal perspective [between 32mm and 80mm,] and sometimes we went a lot longer with a Zeiss 180mm or even the 300mm. I also used a Cooke zoom from time to time. So from a photography standpoint, it was quite satisfying; we really emptied the camera box."

Like *Searching for Bobby Fischer*, which made a visceral experience out of chess, *Shine* lends its piano recitals an almost palpable tension, particularly during one intense sequence which climaxes with Helfgott's onstage collapse. As the teenage prodigy's fingers fly across the ivories, the cam-

era slides along the keyboard, circles overhead, and even reveals the frenzied dance of the piano's inner mechanisms. "We poked our bulky camera into just about every place you could get without physically pulling the piano to pieces," Simpson says with a chuckle. "I suppose we could have gone even further and used fiber-optics, but this was a fairly low-budget production." — S. Pizzello

Troublesome Creek: A Midwestern

Directors: Jeanne Jordan and Steven Ascher

Cinematographer: Steven Ascher

An intensely personal documentary, *Troublesome Creek* took both the Grand Prize and Audience Award for Best Documentary at Sundance, and also went on to earn an Academy Award nomination (at press time, Oscar results were not yet in). The co-producer/co-director/co-writer and editor of the film is Jeanne Jordan, the daughter of the film's aging couple (Russell and Mary Jane Jordan), whose mounting financial struggles forced them to move off the Iowa farm that had been in the family for 125 years.

Her partner (and entire "crew") was husband Steven Ascher, who also served as the cinematographer — less a cameraman than a de facto window into the Jordan family farm house a tumultuous chapter was being written.

"We started the film in 1990 when my wife's father called to say that this might be his last year of farming," says Ascher. "As filmmakers, we felt as if this was an opportunity we couldn't pass up. We basically felt that there had been so much rich history on this farm, and none of it had really been captured in any way, so this was a film we kind of had to do [even though we were working on other projects at the time]."

What they turned up was not only an informative, personal look at small American farmer, but a broader-based and deep-rooted view of family life. The husband and wife team "found themes emerging of marriage, aging, loss and survival." The story itself is quite fascinating in its own right, as the resourceful and resilient Russ

"This is a story about life at the end of the tunnel, which in dramatic terms meant that the film was going to move into some very dark places."

— Scott Hicks

by both his talent and his touching, childlike persona. "He was incredibly eloquent musically, and his playing moved the audience enormously," the filmmaker recalls. "I was astounded by the gap between this awkward social individual and the brilliant pianist within, and I was sure there was an extraordinary story that would explain that gap."

Immediately after the concert, Hicks approached Helfgott, kicking off a year of research into his subject's life. He began interviewing the pianist's family and friends, and gradually put together a first draft of a script. In 1990, Hicks decided to ask a friend and former collaborator, screenwriter Jan Sardi, to rework the material. When the project began to pick up steam, Hicks hired Geoffrey Simpson, ACS, a former Adelaide schoolmate, to shoot the film. Helfgott himself contributed about 80 percent of the piano playing in the film, and Hicks also benefited from outstanding performances from a cast of first-rate actors, including Armin Mueller-Stahl (as Helfgott's father), Geoffrey Rush (as the adult David), Noah Taylor (as the youthful David), Sir John Gielgud (as the legendary music professor Cecil Parkes) and Lynn Redgrave (as David's wife, Gillian).

Given the film's searing moments of drama, Hicks sought a visual approach as uncompromising as his material. "This is a story about life at the end of the tunnel,

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and Mary Jane manage to keep the farm afloat and their spirits high in the face of mounting bank notes.

Certainly, the entire production's integrity and genuineness was helped by also keeping it "all in the family," an editorial decision that didn't even warrant debate, according to Ascher. "Most of the film is a combination of quite intimate things that really would

"Everything I did was geared toward keeping as low a profile as possible with the equipment, and the filming process."
— Steven Ascher

be hard to do with a crew," he says. "It would have been very awkward to have a crew of outsiders. Plus, a lot of the best scenes were moments where we would just be sitting at the breakfast table, and I'd pick up the camera and film the conversation, things like that."

Doubly sensitive both to his in-laws' privacy and the film's voyeuristic needs, Ascher operated with a minimalist approach. "Everything I did was geared toward keeping as low a profile as possible with the equipment, and the filming process. I loaded my own mags, and the Aaton [ER7] is a really nice, small camera. Lots of times we would just use a lavalier mike clipped onto a coffee cup, or clipped on my arm as a way to be able to get sound without having a boom at the breakfast table." He concedes that this m.o. "has some sacrifices in audio quality, but it has a lot of advantages in terms of people being comfortable."

Sometimes the crew would be cut in half, when Jeanne crossed the line from sound person to daughter. "As we got closer to the auction, Jeannie felt her duties as a daughter started to rise up; that she couldn't just be filming when there was so much work to be done on the farm," Ascher says.

Also playing an important role in the film are clips of classic Westerns (such as *High Noon*, *Dodge City*, and *Red River*), which Russ and Mary Jane have always loved to watch on TV. Besides inspiring half the title, the good guy-bad guy sagas flickering in the soon-to-be-empty Jordan living room serve as a reminder of

simpler days past.

The matter of securing rights to this footage, Ascher remembers, was "a whole struggle, with the studios demanding astronomically high figures. . . In some cases it wasn't until we had been picked up by [PBS's] *American Experience* that some of the studios would even talk." An estimated 15% of the budget went into attaining film and accompanying music rights, even though the material accounts for roughly only three of the film's 88 minutes.

Luckily, perseverance in financial crisis appears to be a Jordan family hallmark. "We started filming with no funding," Ascher says. "We had equipment and got some stock, and friends gave us more equipment and more stock [to start]." It wasn't until halfway through that grant money came in (first from the Iowa Humanities Council, followed by other Midwestern states' councils and some private funding). Steve laughingly recalls that as the "end of nursing one or two rolls through an entire evening, so I could be much more relaxed about pulling the trigger, which made a big difference."

Just where most of that negative wound up was less relaxing — they had to freeze it, "in the basement between the chicken and the frozen peas [for over a year]," Ascher says. "Which is not recommended, although by and large it was fine. We had a few scenes that had kind of increased fog level, but those were with stock that was not fresh when we started."

Further costcutting was achieved by making a 16mm interpositive, printing the A and B on a single strand (both to protect them, and to do video transfer) and blowing up to 35mm directly from that interpositive, "which basically saved us a whole step and a whole lot of money," Ascher says. This was accomplished at DuArt in New York, where "Irwin Young was really terrific, and Ken McGrew did a wonderful job [on the timing]," says Ascher. "Even though it ends up being slightly grainier, I think the splices look more stable, and once you're in the theater, you can't tell," he says. Ascher points out that *Variety* thought the film was shot in 35mm,

and laughs, perhaps remembering the 27 mostly handheld hours of footage he shot. "It would have been hard to shoot in 35."

At press time, *Troublesome Creek* did not yet have theatrical distribution lined up. The film will be shown on the BBC this summer, and on PBS' *American Experience* next year. — M. Ferraro

***Color of a Brisk and Leaping Day* (U.S.)**

Director: Christopher Münch

Cinematographer: Rob Sweeney

With a period script set in the Yosemite Valley, *Color of a Brisk and Leaping Day* is certainly a project that would cause most cinematographers to salivate. After landing the assignment, director of photography Rob Sweeney made the most of his opportunity, creating a hauntingly evocative black-and-white world that earned him the Sundance Festival's prize for Best Cinematography.

Directed by Christopher Münch (*The Hours and Times*), the film takes place during a watershed period in U.S. history — that window in time when railroads began to give way to the convenience of motor cars. Serving as an allegory for the nation's relentless hunger for forward progress, the story centers on a 23-year-old Asian-American railroad fanatic named John Lee (Peter Alexander), who is determined to save his beloved, once-proud Yosemite Valley Railroad from obsolescence. After financing his purchase of the railroad with the help of a wealthy businessman, Lee joins forces with Yosemite Valley's aging superintendent, Robinson (Henry Gibson) and its steady but subdued traffic manager, Skeeter (Michael Stipe, in his feature-film debut). But Lee fails to see that technology's onward march is unstoppable, and as his relationship with the spirited Nancy (Jeri Arredondo) blossoms, his dreams for the railroad's revival begin to evaporate.

Sweeney caught the photography bug at Trinity College after a friend gave him a book of Edward Weston's work, indelible images which made a lasting and profound impression upon him. Upon graduation, Sweeney tried

his hand at fine-art photography, working mostly in color with large-format (4 x 5 and 8 x 10) cameras. A steady diet of art films sparked his interest in cinematography, and he later landed a job shooting video at a television station in Santa Fe, New Mexico. When the film *The Ballad of Gregorio Cortez* came through town, Sweeney volunteered to help out on the project, an experience that helped cement his future career path. In subsequent years, he attended the American Film Institute in Los Angeles and began working as an assistant cameraman alongside such photographic greats as Peter Suschitzky, Robert Richardson, ASC, Juan Ruiz-Anchia, ASC, Bill Pope, John Lindley, CSC and Robby Müller. Between his assignments, Sweeney began shooting micro-budgeted independent films to help prepare himself for a career as a director of photography.

Sweeney first met Münch in 1985, when the director was in his very early twenties. "Chris was something of an *enfant terrible*," he says. "He had already made sev-

eral films, and I was amazed by how much he knew at such a young age."

The duo's friendly association led to Sweeney's involvement with *Color of a Brisk and Leaping Day*, Münch's most ambitious venture to date. Still, as the cinematographer notes, the film's relatively modest framework helped to ensure its black-and-white presentation. "If the film had been mounted on a much larger scale, the distributor would have insisted upon us shooting it in color to maximize its marketability," Sweeney says.

Although many at Sundance felt certain that the look of *Brisk and Leaping Day* was inspired by Ansel Adams, Sweeney says the film's austere palette was primarily drawn from the style of a 19th Century photographer named Carlton Watkins. "Chris urged me to look at his work, which is very elegant, simple and expansive photography that emphasizes landscapes over man," Sweeney relates. "Watkins shot with a 14 x 20 Banquet camera us-



ing big glass plates, and he did a lot of work in Yosemite Valley and other parts of the West during the 1870s and 1880s."

Using Watkins as a visual touchstone, the filmmakers also incorporated elements from the works of Buster Keaton and Satyajit Ray.

Because the filmmakers were short on cash, the project had to be shot in two parts; their initial excursions were designed to produce footage that would encourage investors to supply more funds. "We shot for three weeks and then took six months off," Sweeney reveals. "When more financing was

Director Christopher Münch (left) and cinematographer Rob Sweeney capture the scenic wonders of Yosemite Valley while filming *Color of a Brisk and Leaping Day*.

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raised, we shot for three more weeks to complete the principal photography."

The first three weeks of shooting were particularly critical, given the limited availability of both the railroad settings and rock star-turned-actor Stipe, who fronts R.E.M., one of the world's most popular rock bands. "During that short period, we shot all of the big landscapes, all of the Yosemite scenes involving the key actors, all

"Yosemite's natural beauty is unparalleled, and it was very important to me to render it as fully as possible on film."

— Rob Sweeney

of the railroad and hotel scenes and all of the work in Merced," Sweeney says. "Chris did a great deal of painstaking research to find locations that would give us the feel of the period without requiring us to do extensive set dressing."

Sweeney used Kodak's Double X stock for most of his interiors, and Plus X for exteriors. The film's budget requirements meant that both his crew (which consisted of one lighting assistant and one camera assistant) and lighting package were minimal, and discouraged the filmmakers from shooting in wide-screen, an idea they had discussed briefly. The duo did benefit from the largesse of Panavision, which provided them with a Panaflex Gold outfitted with Primo lenses. "I believe this is one of the first black-and-white films to truly exploit the advantages of the Primo lenses, which have gorgeous contrast and tonal rendition," notes Sweeney. "My photographic strategy was to expand the mid-tones and bring out all of the mid-range blacks and grays."

Sweeney is particularly fond of the film's opening shot, a gradual reveal that begins with an abstract composition of water streaking over rock and tilts up to encompass one of Yosemite's spectacular waterfalls. He nailed the shot on his own time, while working on a commercial in the Yosemite area. "I own an Arri 2C, and the day after I finished working on the spot, I borrowed one of

their longer focal-length lenses and hiked up to the base of Yosemite Falls. It's something like four miles up at an elevation of 2,500 feet, which is quite a haul when you've got 80 pounds of gear on your back. But it was a great vantage point. We later married the footage to a piece of Charles Ives music, *The Unanswered Question*. It worked out beautifully; the music swells just as the whole location is revealed."

Throughout the film, Sweeney used delicate amounts of filtration to enhance the look. "We were blessed with terribly inclement weather, which gave us great cloud formations," he says with a touch of irony. "I used a typical set of black-and-white filters for contrast control. I didn't tend to use anything heavy; I mainly relied upon the #8 and #15 yellows. I used a green filter for sequences with a lot of foliage, and very occasionally I used a 23 orange filter to heighten the contrast a bit. I did use grads on the sky, but very subtly; I wasn't looking for the really heightened contrast that you often see in contemporary black-and-white footage. I wanted to exploit the mid-range to develop textures that would contribute to the feel of the period."

Summing up his approach to the film's pictorial promise, Sweeney says, "Yosemite's natural beauty is unparalleled, and it was very important to me to render it as fully as possible on film. It was the chance of a lifetime to be able to express, in a very visual way, the passion I have for that place."

When We Were Kings

Director: Leon Gast

Cinematographers: Albert Maysles, Kevin Keating, Paul Goldsmith, Roderick Young, Maryse Alberti

Filmmaker Leon Gast may or may not be able to throw a punch, but he certainly can go the distance. Just ask Muhammad Ali, George Foreman, Don King, George Plimpton, Norman Mailer, Taylor Hackford and the toppled government of Liberia, to name a few.

Twenty-two years ago, Gast was hired by a company called International Film &

Records to make a documentary film about the famous "Rumble in the Jungle" heavyweight championship fight and the mammoth musical and cultural festival that was taking place around it in the African nation of Zaire.

Granted, the film's scope was still larger, touching directly on the black experience in both America and Africa, but it should have been a simple enough assignment for an experienced, respected documentarian such as Gast (whose credits at the time included *Our Latin Thing*, a film about the salsa culture), right? Especially since he had unlimited access and nine crews, including such noted cameramen as Albert Maysles and Paul Goldsmith. But the contingency has yet to be invented for what Gast and company were about to face.

First, Foreman sustained a cut while training, postponing the fight and prolonging the crew's stay. Most significantly, though, was the problem of ticket prices. It turned out that International Film & Records, which also had a major financial stake in the fight and festival (and which was eventually revealed to be receiving illegal funds from some of Liberia's ruling family), was planning to pay for the film's editing and other post-production costs with part of the gate receipts.

Fine, except that tickets for the fight cost roughly \$15, which was \$3 more than the average monthly wage of Zaire's workers. Sales were virtually nonexistent, so Zaire President Mobutu interceded and waived the admission fees, preventing his country from looking bad on worldwide television. The fight was a "sellout," yet Gast's film became mired in limbo, with all of the fertile footage owned by a company that wasn't willing, or able, to pay for its fruition.

It wasn't until roughly five years later, after a bloody coup in Liberia, that the film's hopes rose from the canvas. Through the efforts of his lawyer (and eventual partner/executive producer), David Sonnenberg, Gast was awarded all the film and its production rights. Of course, the completion money was still gone with the turnstiles.

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"We were able to pay our lab bill, and have it processed," Gast remembers, "but after that, the stuff just sat there for a very long time," as he tackled it on a piecemeal basis while working on other projects. "I hadn't had the sound transferred [from the original reel-to-reel tapes]," Gast continues, "so I'd find a great roll of film, and I'd find the corresponding quarter-inch, and I'd have that transferred and sync it up. It was getting into the beginning of the video era, in the late 1970s and early 80s, so I started getting stuff transferred onto 3/4" cassettes, got myself an off-line editing system, and started putting things together."

What he had was a mountain of amazing footage, shot mostly with Eclair NPRs containing 400-foot loads ("It was a macho thing," he laughs) and a few of the lighter ACLs.

The film's vivid images are thanks to Gast's choice of Kodak 7247, "an extremely fine-grain stock. It blew up exceptionally well, but they did away with it a few years later because the processing bath was ecologically unsound or something."

Eventually, Sonnenberg decided to fund completion, and a director's cut was struck. That was in 1993, the year that an L.A. film executive (for the German company UFA Non-Fiction) named Vikram Jayanti saw the director's "verité" cut (sans "narration and talking heads," which Gast "never liked") and forwarded it to his friend, director Taylor Hackford.

"Taylor [came on board, and] said he wanted to 'bring it into the 90's,' and that we could do that by doing interviews," Gast recalls. Obvious choices were American writers Norman Mailer and George Plimpton, both of whom had been in Zaire and had written about the experience. Fleshing out the African and African-American perspectives were the actor Malik Bowens (*Out of Africa*) and director Spike Lee, a huge childhood fan of Ali, as well as Ali biographer Tom Hauser.

The interviews were conducted in New York over a three-day period, with Hackford directing and Gast producing. Hearing

the inspired, insightful stories, Gast reports, left the filmmakers "blown away. Taylor said, 'It was like I had Ali sitting up on my shoulders.'"

And indeed, Ali's imprint is all over *When We Were Kings*. Even when one of Gast's "autonomous" crews is away from the champ, taking in an encounter between the young Don King (promoting his first fight) and some African politicians, you can feel his presence. Also, the electrifying pre-fight concerts by James Brown, B.B. King and the Pointer Sisters, along with numerous African artists, have an aura of "command performance" about them. Clearly, prodigal son Ali is the *raison d'être* for this entire 88-minute feast for the senses.

Presumed to be over the hill, yet oozing charisma as if it's sweat, Ali weaves perhaps his greatest miracle in the course of this film. He dances in, captivates a nation (whose rallying cry became "Ali, buma ye!" — meaning, "Ali, kill him!") while shocking Foreman, the experts, and even his own handlers (who glumly expected the worst in his pre-fight locker room until Ali himself cheers them up) by brazenly scripting an ending even Hollywood wouldn't have bought.

"It was the greatest experience of my life," Gast says simply. And now it's made a comeback of its own. —M. Ferraro

***I Shot Andy Warhol* (U.S.)**

Director: Mary Harron

Cinematographer: Ellen Kuras

With its glamour, decadence and glittering coterie of poseurs turned "superstars," the world of Andy Warhol presents a cornucopia of cinematic possibilities. In *I Shot Andy Warhol*, director Mary Harron and cinematographer Ellen Kuras make the most of this garish tableau, taking viewers inside the Factory, Warhol's bohemian enclave and the center of his artistic cottage industry, to reveal the spiritual bankruptcy that lay within its silver-painted walls.

Rather than taking the expected approach of a straight historical overview, however, the filmmakers trained their sights on

Valerie Solanas (Lili Taylor, in an inspired performance that earned her a Special Jury Award for acting), the arch-feminist and would-be assassin who emptied a handgun into Warhol's chest during the Sixties, dramatically altering the way in which the artist (memorably rendered by Jared Harris, son of Richard) approached both his life and career.

As the founder and sole member of SCUM (the Society for Cutting Up Men), Solanas was an eccentric figure even by Warhol's standards. While turning tricks to support her writing habit, Solanas began to worm her way into the artist's inner circle, seeking financial backing for her scaldingly parodic play, *Up Your Ass*, and moral support for her novelistic endeavors. Although Warhol initially encouraged Solanas, she gradually fell out of favor with the Pope of Pop Art, until she was finally "excommunicated." Enraged by this betrayal, Solanas calmly strode into the Factory and perforated Warhol with a round of bullets.

"I had always been interested in Warhol, but when I came across the SCUM Manifesto (Solanas' unique thesis and "statement of purpose"), I became fascinated with Valerie," says Harron.

"She had just disappeared from sight, and there was very little information about her, so naturally I became obsessed

An aloof Andy Warhol (Jared Harris) is courted by aspiring playwright/novelist/revolutionary Valerie Solanas (Lili Taylor) in *I Shot Andy Warhol*.



Photo by Bill Foley

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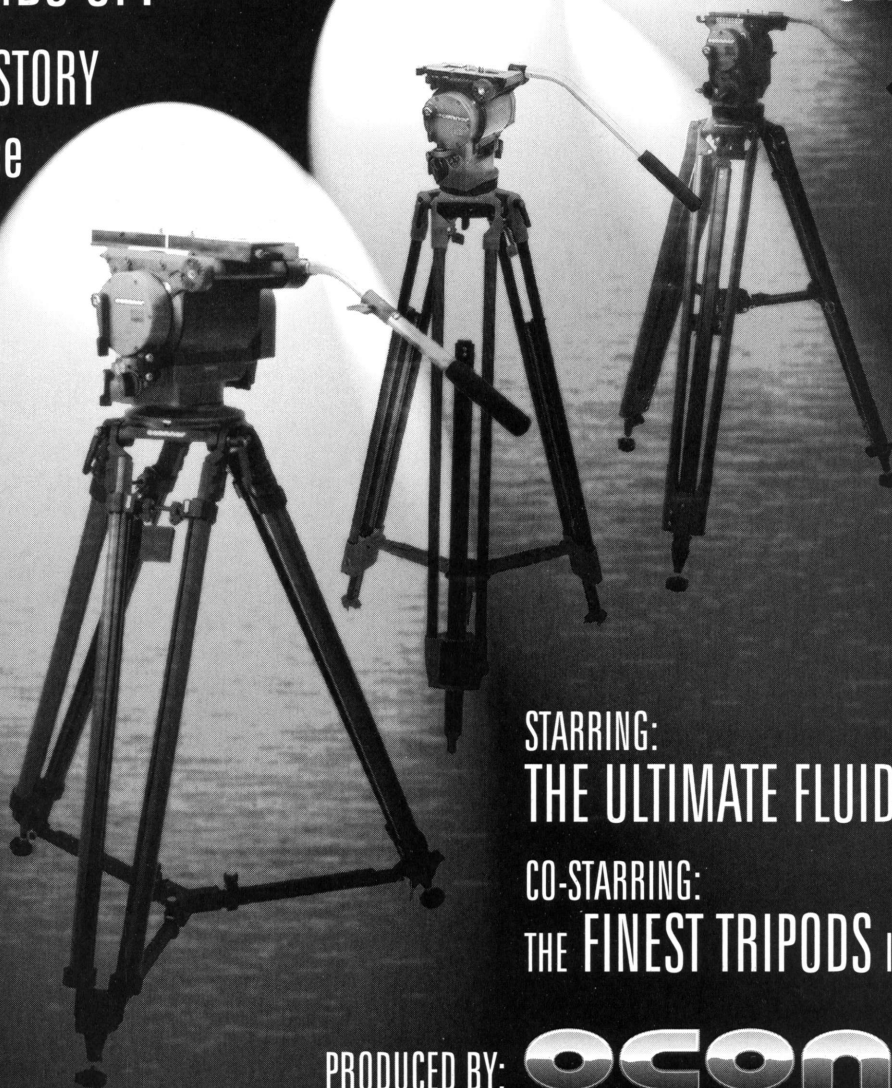
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with finding out more."

With the help of a researcher, Harron began digging into Solanas' past. She also enlisted the aid of the Warhol Foundation, which she found to be "surprisingly supportive" in light of the film's fairly sympathetic portrayal of Solanas.

"I think there's a lot of brilliant writing and truth in the Manifesto, although I certainly

"I don't think [Valerie Solanas] shot Warhol as a political act, I think it was a personal act of vengeance."

— Mary Harron

don't think all men should be killed," Harron says with a chuckle. "I'm not entirely sure that Valerie did either; to a certain extent, she may have been writing in metaphors. I don't think she shot Warhol as a political act, I think it was a personal act of vengeance."

I Shot Andy Warhol is told in a wide array of visual techniques inspired by Harron's background as an on-air reporter and filmmaker for the BBC. "I made dozens of short films and a number of longer ones in many different styles, using many different formats," she says. "When you're making a documentary and editing footage, you're naturally working with a combination of source materials — 35mm, 16mm, Super 8, video and so on. Different types of footage can be used to provide certain emotional textures."

This strategy is brilliantly realized by cinematographer Ellen Kuras, a rising star whose credits also include the fashion world documentary *Unzipped* and the beautifully shot black-and-white feature *Swoon*, which was also produced by the Warhol team of Tom Kalin and Christine Vachon. In *Andy Warhol*, Kuras once again shows off her mastery of the black-and-white medium while re-creating the grainy, spotlit look of Warhol's screen tests of his potential superstars. "I shot those with one light and no fill on 7222, because we wanted them to be high-contrast," says Kuras, whose previous work on *Swoon* and *Angela* earned her Sundance Awards for Best Cinematography in 1992 and

1995, respectively. "I really like the contrast range of the 22. I lit those shots to a really big stop, about an 8, because I wanted the blacks to go as black as they could; I also wanted to blow out the faces somewhat, because we were going straight to print."

Elsewhere in the film, Kuras dazzles the eye with colorful mixed lighting schemes, particularly during a spectacular party sequence at the Factory which serves as the film's visual centerpiece. Warhol's trippy headquarters was replicated at the Manhattan's Dia Arts Foundation, a huge space that presented a daunting canvas for the tightly budgeted production. "We had a limited number of extras, so we knew that we wanted to leave it dark in some areas while still allowing viewers to see the tinfoil on the walls and all of the other elements of a drugged-out party scene," says Kuras. "We divided the whole Factory into a series of areas — one for the druggies, one for the band, one for Andy and the art critics and one where the superstars would be. We lit each area accordingly. For example, in the area where we had the 'amphetamine heads,' I suggested that we put in a fluorescent tube that they would be staring at, which is typical druggie behavior. I also wanted that area to be red so we could go out of focus and leave things dark and make it look really weird. In the other areas, we focused on primary colors like reds and strong yellows. We used blues and the more pastel colors for the area where the art critics were standing."

The entire sequence was shot handheld with two cameras, one operated by Kuras and one by Stephen Kazmiersky. To help lend a feeling of fluidity to handheld shots executed from the dolly, key grip Danny Beaman developed a special wooden seat that would allow him to boom the cinematographers up and down as they rolled along.

Kuras lit this phantasmagorical milieu with theatrical fixtures — Lekos and Par cans — for optimum control. The Lekos were outfitted with old-fashioned color wheels; the cinematographer inserted various colored gels in

them to lend a truly Warholian sense of psychedelia to the proceedings. Kuras explains, "The nice thing about the Lekos is that you can focus them; they have a sharper edge, and you can cut them off using the shutters. We did use some Baby Juniors, but they were too diffused and would lose too much light through the transmission of the gels."

The cinematographer reserves special praise for gaffer John Nadeau and second electric Simone Perusse, who helped her design the impressive lighting palette for the sequence. "John and Simone were just amazing," Kuras states. "We had three days of intense shooting in this place, and we didn't even have a pre-light day."

"Ellen and I had just two weeks of prep to talk about things, and the shoot itself took seven weeks," says Harron. "We had a lot of locations, so we had to be selective about where to do the most complex shots. Almost all of the complicated dolly shots take place in the Factory, because we were able to set up there for two weeks. I had very good communication with Ellen throughout the entire project; she just sort of intuitively understood what I wanted. I had never really experienced that kind of connection with a cinematographer in the past."

Harron notes that Warhol fanatics will have plenty to watch for in the film, which re-creates the Factory in loving detail, thanks in large part to the efforts of production designer Thérèse DePrez, who did an exhaustive amount of research. The production also benefited from some inside information provided by Warhol's circle of associates. "Billy Name, who was the house photographer at the Factory, served as a consultant," Harron relates. "He was the person who actually painted the place silver, and he advised us on all of the minute details. The right piece of mirror is by the telephone, the darkroom is in the right place, and the couch is an exact replica of the famous factory couch. True Warhol fans will have a field day looking for all of the little touches."

I Shot Andy Warhol will be released by the Samuel Goldwyn Company. — S. Pizzello

The Art of Digital

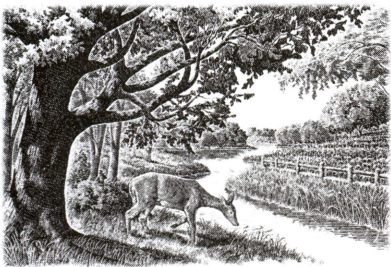


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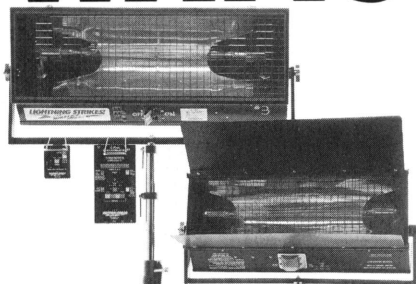


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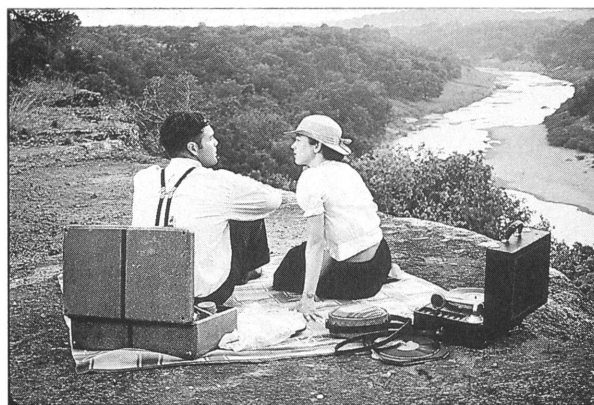


Photo by Dan Zaitz

A lush vista symbolizes the future's promise for Robert (Vincent D'Onofrio) and Novalyne (Renee Zellweger) in The Whole Wide World.

Ireland says. "I was so blown away by the exotic look it had, and it had also this really moody feeling of Hawaii in

The Whole Wide World

Director: Dan Ireland

Cinematographer: Claudio Rocha

In *The Whole Wide World*, actor Vincent D'Onofrio delivers a powerhouse performance that seems eminently capable of blotting out the massive Texas landscapes behind him. Thankfully, director Dan Ireland and cinematographer Claudio Rocha found a way to squeeze both natural wonders onto the screen with minimal loss in the transfer.

D'Onofrio (also a co-producer on the film) plays Robert E. Howard, who in real life was a highly popular master of American pulp fiction in the 1930s, and the creator of many enduring characters, including Conan the Barbarian. Scornful of "normal people," except for a loving relationship with his mother (Ann Wedgeworth), Howard almost solely exists in a fantastical world of his own creation, fighting the same epic battles and conquering the very voluptuous maidens Conan does. But then he meets a young woman who challenges him, "firecracker" schoolteacher Novalyne Price (Renee Zellweger), upon whose recent memoirs the film is based.

A lush golden-hued period piece, *The Whole Wide World* harkens back to Old Hollywood in a glorious, poignant way. Rocha, who was the cinematographer on last year's Sundance audience favorite, *Picture Bride*, and shot second unit on Alfonso Arau's *Like Water for Chocolate*, was first-timer Ireland's clear-cut first choice.

"I was at Sundance last year and when I saw *Picture Bride*, I said, 'I have to have this guy,'"

1918, that's not at all what you would expect. I've never seen a Hawaii picture with the density and richness this one had, and they shot the film for \$500,000!"


Although the budget for his film was not quite triple that amount, Ireland and Rocha were steadfast in their decision to shoot the film in the 2.35:1 anamorphic format.

"On the budget we had, I was told that we were insane to do it," Ireland recalls. "It requires [extra] time to do the lighting and set up the shots, but the way Claudio and I had sat down and storyboarded and shot-listed every single shot, we knew exactly what we wanted." The cinematographer stayed at the director's house for a month and a half prior to the production. His camera of choice was an Arri, and he shot the film on Kodak's 5296 and 5298 stocks.

While preparing for the film, Ireland mentioned two predecessors that had an impact: *Days of Heaven* ("one of the most perfect American films") and *King of the Hill*. The latter "was a great inspiration," the director says. "We looked at it and studied it, because I was so impressed with the feeling and the authenticity that both Elliott Davis [ASC] and Steven Soderbergh managed to capture."

Set in rural Texas, the locations for *The Whole Wide World* were private ranches and three or four towns 40 miles south of Austin, with additional scenic settings found by location manager Michael Casey, whom Ireland credits for a number of the heart-stopping locales.

Among the most memorable is Kato Peak, the site of Bob and Novalyne's first kiss. "She says



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Photo by Dan Zaitz

Notes from Underground's nameless protagonist (Henry Czerny) confronts his tormentors during a private dinner party at a swank restaurant.

that she 'can see the whole world from here,' and he says 'Others as well,'" Ireland recites. "We found that place about 10 hours before we shot it. But things like that kept happening to us."

Because of the film's amber aura, Ireland recalls, "Someone asked me if we shot during 'magic hour,' and I said, "'No, we shot during *rush* hour. It was like boom, boom, boom, boom, *next!* It was so demanding because it was 110 degrees and five people were dropping every day because of dehydration." Because of the mean old Texas sun, Rocha was constantly adding heavy yellow filters, and all exteriors had to be shot before 3 p.m.

Ireland recalls being horrified when he screened the first batch of dailies, but the problem was the Austin projection facilities. "We were watching them with a quartz bulb and a cracked anamorphic lens," he shudders. "But my wonderful editor, Luis Colina, saw the footage at Deluxe and said it was beautiful, so we kept going."

Perhaps the most crucial scene in the film is early on in the relationship, when aspiring writer Price asks Howard what his stories are about. Bounding out of his convertible to commandeer the requisite freedom to answer, a wild-eyed Howard stares through the headlights, with the cornfield at his back serving as a cinematic proscenium.

As the answer unfurls, Howard turns into his own barbaric creation. For Ireland, the transformation was "one of the dreams of mine. He had to become the character, he had to become Conan completely. The audience had to buy him from that point, so that they would buy into his neu-

roses. Because you know that this guy is really there. He's living these roles and he's in a trance when he's telling her this. And she's about to enter a relationship where he's going to take her places she's never been."

"The scene was laid out like a stage [production] and the camera kept moving in, and in, and in and in. It ends on his face, and then it has to pull back, because he comes out of his trance. That was a killer to get that right. Our focus puller [Ademir Silva] was insane. We'd been working all day long and it was the last shot of the day and I needed an actor to take me to the moon and I needed my cinematographer to be completely 1,000 percent precise. It was the most important scene to sell this guy and this character at this point. And when it happened, I only did one take; we didn't even go safety on it. I said "This is it, we're not going to get any better than this."

At press time distribution plans for *The Whole Wide World* were not yet confirmed.

— M. Ferraro

Notes from Underground (U.S.)

Director: Gary Walkow

Cinematographer: Dan Gillham

In modernizing Dostoyevski's sharply satirical and extremely influential novella, director Gary Walkow has done a masterful job of underscoring the timelessness of the story's themes. Repositioned in the status-oriented, cliquish American culture of today, Dostoyevski's unnamed Underground Man (Henry Czerny, in a tour-de-force performance) seems as relevant now as he did among the rigid social castes of 19th-century Russia.

Walkow's *Notes* (which he also scripted) remains remarkably

faithful to both the book's spirit and narrative. The film's central character, like his literary progenitor, is a spiteful, embittered civil servant, toiling away in the bowels of a municipal building department. Overwhelmed by feelings of isolation and social inadequacy, he swallows his pride and seeks out the company of some loathsome former schoolmates, a group of smug, self-important lawyers who regard him to be a pathetic, sycophantic hanger-on. When the group convenes at a swank restaurant to stage a congratulatory dinner for a particularly pompous associate, the Underground Man's ire reaches its zenith. The evening soon degenerates into a humiliating round of insults; bent on revenge, our hero trails his tormentors to a bordello, where he instead encounters a sad, sullen prostitute (Sheryl Lee) who later arrives on his doorstep, hastening his descent into a world of self-loathing and despair.

Adapting Dostoyevski's highly subjective, first-person prose style for the cinema presented Walkow with a number of challenges. First and foremost, he needed to find a visual vehicle for the main character's vituperous spleen-venting, which takes the form of diary entries in the novella. Walkow came up with the ingenious idea of shooting the underground man's "confession" in the form of a video diary, a solution that showcases Czerny's considerable acting chops while adding texture to the film's cinematography.

"The alternation between video and film gave the movie an inherent visual rhythm, and also offered a lot of possibilities in regard to the relationship between the visuals and the sound," Walkow offers. "A line of dialogue could start out on the video and then become a voice-over married to the film images. The approach we took generated a lot of stylistic permutations: sometimes there might be a match-cut between the film and video, and other times we could have a voice-over that could cut to an image of Henry on video. One one level it was a simple idea, but it also created an array of formal possibilities."

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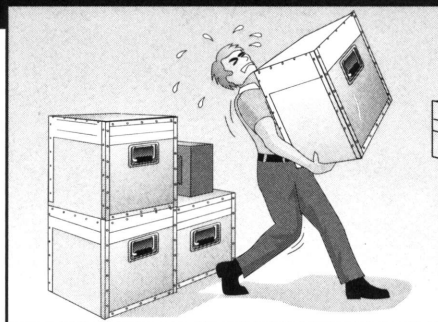
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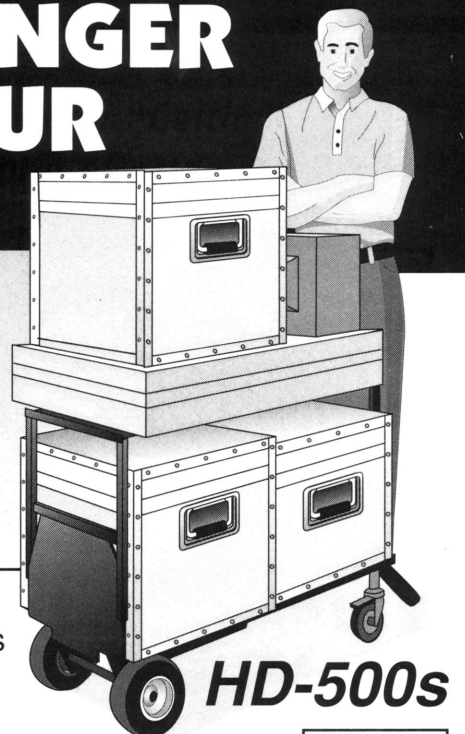
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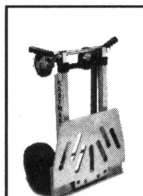
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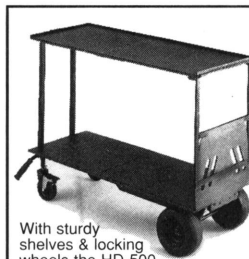
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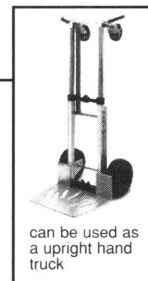
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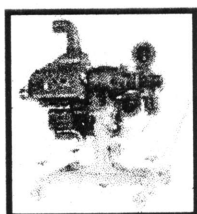
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Cinematographer Dan Gillham (whose previous credits include the arty, intriguing, but as-yet-unreleased indy venture *Minotaur*) recorded the video scenes with a Beta camera, and then played the footage back at 24 fps so it could be reshot in 35mm. The film footage in *Notes* was shot mainly with an Arri BL-4, but Gillham also used an old Mitchell (for slo-mo footage) and an Eyemo. Collaborating with Walkow on the picture's visual arc, Gillham exploited color schemes and lighting strategies that subtly enhanced the underlying moods of various scenes. The video's cool electronic hue led the filmmakers to select blue as a key color for the production's overall design; brown is also predominant, and when Liza the prostitute enters the picture, red is introduced as an additional motif. But as Walkow points out, "Even though the colors were very controlled, we didn't want to hit the audience over the head with them. Hopefully, they work on an almost subconscious level."

With relatively few settings to work in (most of the film's action takes place in the Underground Man's basement apartment, the restaurant, and the bordello), the filmmakers focused on maximizing the look of each space. Interiors were shot almost entirely on soundstages in Sylmar, CA, making the task a bit easier. "We had a very short shooting schedule, which meant that we couldn't constantly be changing our lighting," says Gillham. "Gary and I really did our homework to come up with a plan for each scene."

That plan included low levels of background lighting, which gives the film a unique look: characters often appear to be spotlighted against a moody abyss, which heightens the ambience of existential angst. This strategy paid off spectacularly in the extended dinner sequence, which has a magisterial feel perfectly suited to the scene's confrontational and accusatory tone. "We shot the dinner in just three days, after cannibalizing the courtroom set from another film called *Boys On the Side*," Walkow reveals.

Adds Gillham, "The look for the dinner was based mainly on

bouncing light off the tablecloth. Because the restaurant was an alien environment for Henry's character, we made him look harsher by seating him right at the focal point of the light. The other characters were supposed to be more comfortable there, so they were on the edges of the light, where it fell off a bit. We also composed a lot of the shots so Henry was positioned in the background, picking at his food or reacting to what the others were saying."

The filmmakers were also conscious of the relationship between the characters and the camera. During the early parts of the film, when Henry is trying to ingratiate himself with other people, the camera is closer to the actors; as Henry begins to recede, the camera pulls back as well.

"If you have a strong overall sense of design, then you understand where each shot fits in, and you don't get lost scrambling around at the last minute," Walkow points out. "Conversely, that kind of preparation sometimes allows you the luxury to improvise. For example, at one point I wanted to do a very subtle 360-degree shot — it was actually even closer to 500 degrees — following Henry around the apartment set. I thought it was going to be really difficult, but when I approached Dan he said, 'Actually, that's simple, we're already lit for it.'"

Walkow, who won the Grand Jury Prize at the 1987 Sundance Festival for his first film, *The Trouble With Dick*, says that he is currently researching his next project, an exploration of the beat generation. — S. Pizzello

The Sadness of Sex

Director: Rupert Wainwright
Cinematographer: Andre Pienaar, CSC, SASC

Screened at the gala closing of the upstart Slamdance International Film Festival, *The Sadness of Sex* was originally intended as a project along the lines of Spalding Gray's *Swimming to Cambodia*, with author/spoken word performer Barry Yourgrau to cut more of a lively figure on stage.

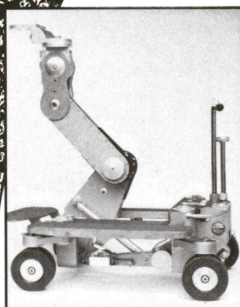
Somehow, though, the resultant collaboration between Yourgrau and director Rupert



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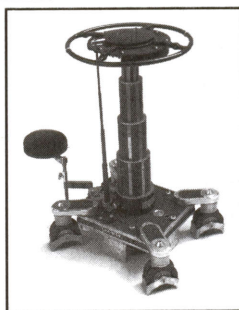


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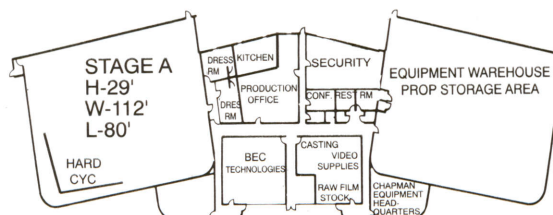
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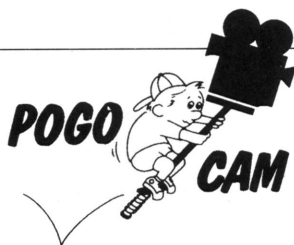
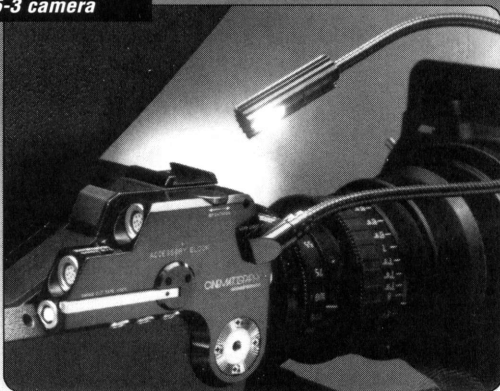
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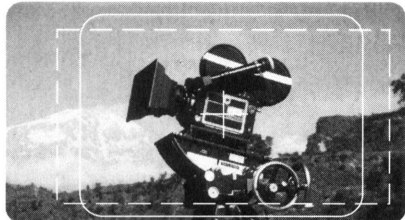


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Wainwright wound up as a kamikaze, kaleidoscopic pastiche of flashbacks, fabrications, tangents and surrealist tableaux. Fifteen independent segments visually augment a crop of short stories that the bohemian Yourgrau delivers from a swanky, smoky nightclub stage, all refracting a lifetime's worth of observations on, and interactions with, the fairer sex.

Wainwright's goal was to "capture the whole range of love, from the poetic to the pornographic, with everything in between: the ridiculous, the comic, the sad and the cruel." Going with this all-encompassing flow, it only seemed natural to attack amorphous amour with virtually every stock available, as well as utilizing computer animation, stop-motion Monty Python-style animation, flash frames, still photography and untold other elements.

One crowd-pleasing moment is a poisonous epiphany during which Yourgrau is thrown from his table at an outdoor cafe, thunderstruck by the appearance of the Angel of Love (Peta Wilson). As he glances up, she emerges from behind two workmen carrying a Mona Lisa print, and strides forward sensually, sporting downy wings to offset her garter belts and cigarette. The pacing is such that this vision comes just moments after we've witnessed a strip poker game in which staid middle-aged men are showered with milk straight from a cow's udder.

Such diversity, says Wainwright, is "partly why the photographic approach to the movie tries to capture life on the fly. It's an emotional approach, rather than dolly track here, dolly track there." The scattershot visual strategy was sparked by creative meetings Wainwright had with the painter Matthew Maxwell (a friend from their Oxford days) and editor Brian Berdan, who had just finished cutting *Natural Born Killers*. That film's "mad fluidity" was cited as a "liberating" inspiration, but Wainwright said the film he watched nearly every day while shooting *The Sadness of Sex* was another Oliver Stone/Robert Richardson, ASC collaboration, *JFK*. He hails that film's "poetic invocation of images," along with Godard's

Breathless, which "catches life on the fly but at the same time is obsessed with artifice."

Obsessed with his shooting schedule was cinematographer Andre Pienaar CSC, SASC. With a mere 12 days in the budget, Pienaar first had to assemble a sizable yet portable arsenal. For the first six days, the filmmakers were on the nightclub set, which served as Yourgrau's (and the film's) home base. Shooting with an Arri BL-4, Pienaar opted for Kodak's 5293 stock because he wanted "a nice, rich quality look" to contrast with the more haphazard visual language used in the vignettes. Pleased with the results, Pienaar does add that "if it was now, I'd have gone with the 5287 because of its wonderful shadow content."

In the club, Pienaar used a small lighting package with one Xenon follow spot, lots of Lekos, a few medium-sized tungsten lights, and a few medium-sized HMIs "for some blue ambience." His lenses were Zeiss primes, and because Wainwright admittedly "bullied" him into using zooms, he went with an old Angenieux 25-250mm.

Used to a more deliberate approach from his years with Partners, the Toronto-based advertising giant, Pienaar was pleased with the almost guerrilla-paced Wainwright set, calling it "very bold. It was like, 'Light it and shoot the blooming thing,'" the South African native laughs. "That's probably why the film has this extraordinary energy."

That mindset was imperative to Wainwright, whose two preceding projects had been a Disney kids' comedy and "frame for frame, the most expensive film ever made" — the \$8 million, 90-second promotional trailer for Michael Jackson's *HISTory* album. "I said, 'I can't go on making film this way, it sort of ossifies the whole process,'" Wainwright remembers. "I needed to do something that would liberate me, and that was *The Sadness of Sex*. Fortunately, Andre was just brilliant. To his eternal credit, he figured out ways to make it happen."

Pienaar (as well as day shooters Steven Poster, ASC and Peter Collister) shot color and black-and-white 16mm with a

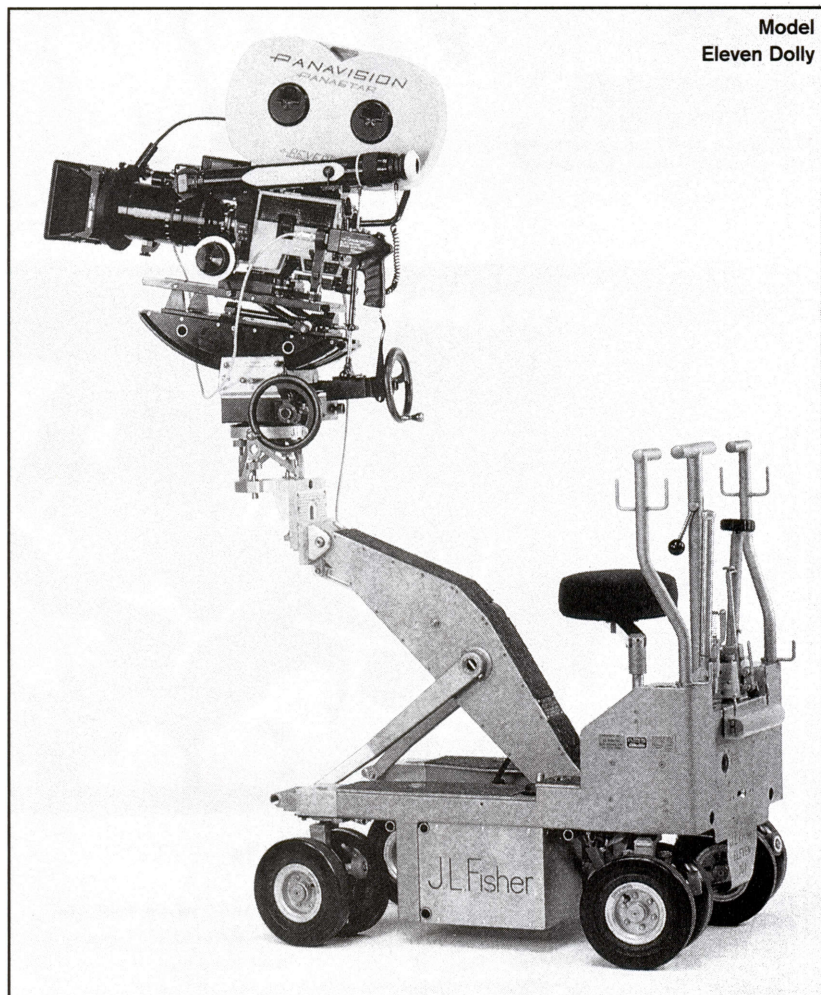


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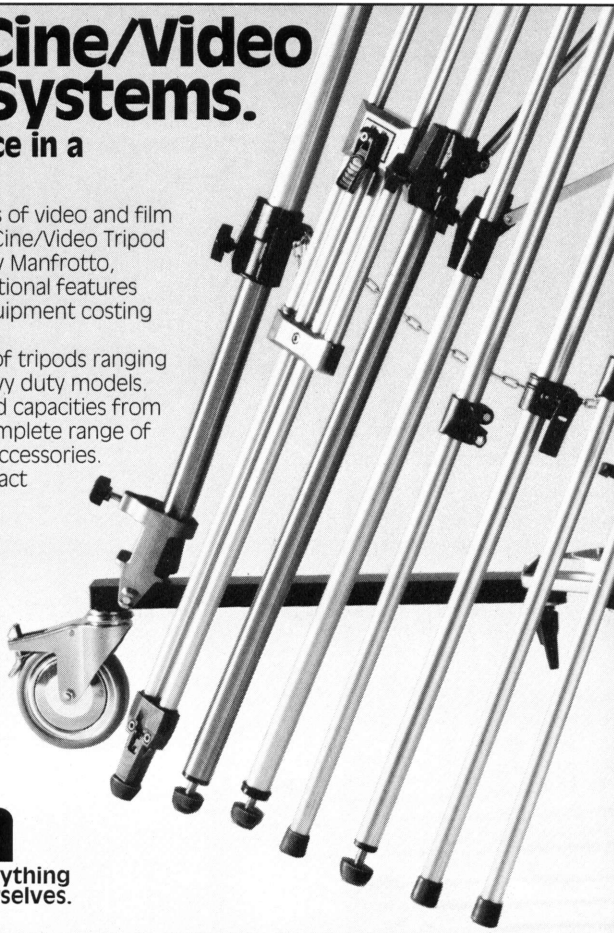
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Bolex (he likes the energy of the 100-foot rolls), and used a little Canon Super 8 camera that he and the director were very pleased with. "You can't even see the grain," Wainwright enthuses over their Ektachrome 160 and black-and-white reversal footage. For 16mm they used 7222 and 7298, and the only real problem occurred after they transferred their "beautiful, deep" black-and-white 35mm footage (5231 and 5222) to a color 35mm negative. "It got real contrasty," Pienaar reports.

Eventually, they solved this problem by preflashing the interneg to varying degrees, which "milked it up a little bit," Wainwright says, but still kept a tight enough grain to preserve the greys and light whites that had initially been lost.

The low budget (less than a million dollars) provided for quite a turnabout from projects past. This movie "was the only time in my life when I've called 'Standby, action, run camera, rather than the other way around,'" Wainwright laughs, but he feels that kind of urgency helped "achieve a sense of spontaneity and to find beauty in the frame."

— M. Ferraro

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Female Perversions (U.S.)

Director: Susan Streitfeld

Cinematographer: Teresa Medina

One of Sundance's most provocative entries, *Female Perversions* is an ambitious and audacious exploration of feminist values, played out against the Freudian neuroses of its various characters. Eve (Tilda Swinton), a high-powered but insecure attorney, is a woman on a psychological tightrope, poised on the verge of both a judgeship and a nervous breakdown. Although she has mastered the rituals of her profession, her social life is a roundelay of shallow sexual encounters; Eve submits to the whims of her domineering boyfriend (Clancy Brown), while asserting control over her lesbian lover (Karen Sillas).

Eve's already complex problems are multiplied when her sister Madelyn (Amy Madigan), a brilliant scholar and compulsive kleptomaniac, is arrested for shoplifting in a small desert town in

California. Compelled to rush in and "save" her sister, Eve — the slick big-city lawyer — finds herself to be helpless in the face of the town's outmoded judicial system. While staying at Madelyn's home, Eve meets several women who shake her self-image, including Emma (Laila Robins), her sister's weak, man-pleasing landlady, and Ed (Dale Shuger), Emma's glum teenage daughter. After stumbling across her sister's feminist thesis, Eve becomes fascinated with its premise of a strong society of empowered women; her enlightenment is furthered along when she also discovers a Super 8 film of one of her childhood birthday parties, in which the adult Eve can see for the first time how her mother was subjugated by her father.

With so many ideas at play, *Female Perversions* asks much of an audience, but director Susan Streitfeld adroitly maintains this tricky artistic balancing act by remaining faithful to the principles behind the film (which was adapted from Louise J. Kaplan's best-selling book of the same name) and by allowing the riveting Swinton (last seen in *Orlando*) to inject her performance with a wry and leavening sense of humor. Cinematographer Teresa Medina also makes an indelible mark, expertly evoking both the hard, cold glitz of Eve's city life and the earthier tones of the desert.

"I read a review of *Female Perversions* in the *New York Times Book Review*, and it just seemed to encapsulate a lot of things I'd been thinking about," says Streitfeld. "I had been wanting to make a contemporary film about women, sexuality and power, and when I read the book, it really spoke to me. But it's a very complex, multilayered work, and the process of creating a script from the book took about 3 1/2 years. The film has a lot of threads in it; many movies are about just one or two ideas, and tend to telegraph to audiences what they should be feeling or how they should react. I very consciously steered away from that kind of approach. As a result, a some people won't want to watch a film like *Female Perversions*, but I think others will be very stimulated by it." →

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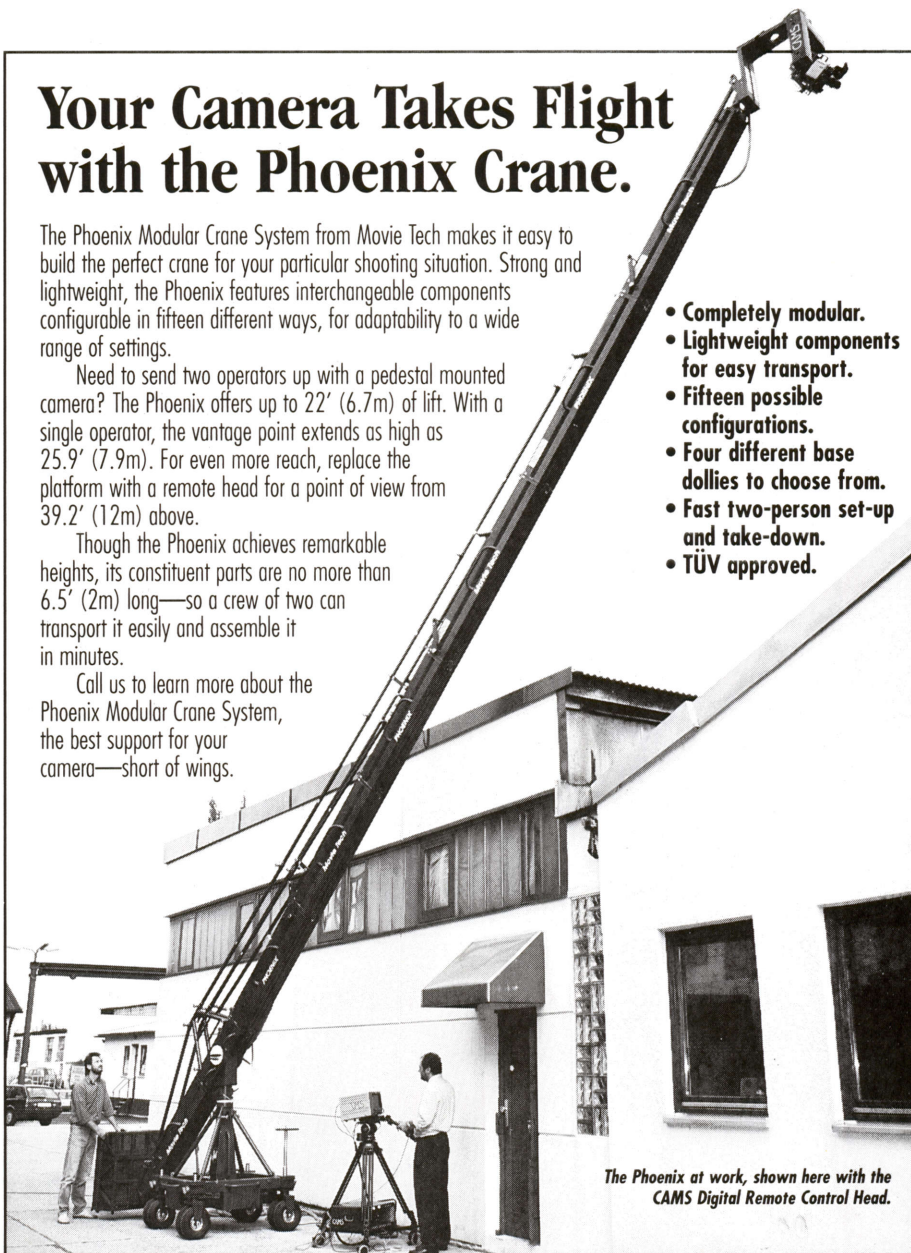
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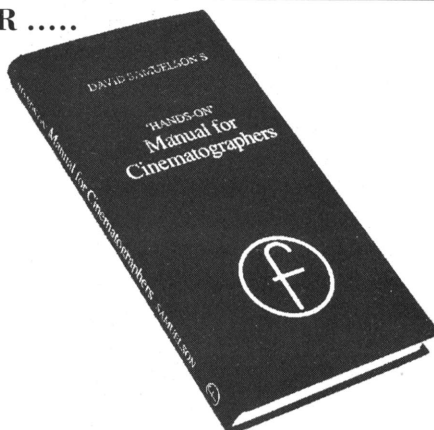
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When the project was ready to roll, Streitfeld recruited Medina, a native of Madrid who had earned a Master of Fine Arts degree in cinematography at the American Film Institute. Medina had also served as an intern with both Vilmos Zsigmond, ASC (on *Sliver*) and Vittorio Storaro, ASC,

"Many movies are about just one or two ideas, and tend to telegraph to audiences what they should be feeling or how they should react. I very consciously steered away from that kind of approach."

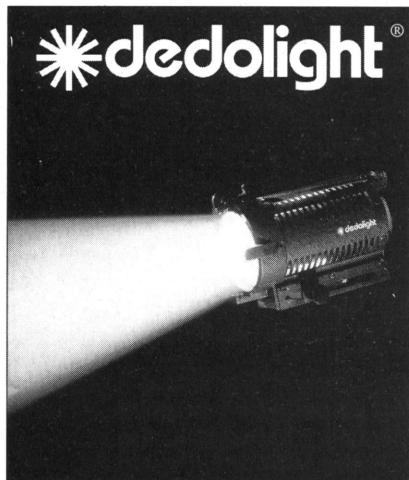
— Susan Streitfeld

AIC (on *Little Buddha*). Her list of credits includes the features *Unconditional Love*, *Reflections On a Crime* and *Things I Never Told You*.

"I speak in metaphors, and Susan speaks in the abstract," Medina says with a laugh. "The first day we talked about the film, she said to me, 'I just want you to look at two movies: *The Conformist* and *Spirit of the Beehive*.'"

Medina had already seen *The Conformist*, but she watched both films closely and began to analyze why Streitfeld had asked her to screen those particular works. "In *The Conformist*, the main character's behavior is dictated by the Fascist society, and the look is very cold, with tiny people swallowed up by these huge spaces," Medina points out. "I immediately said to myself, 'That's it, that's Eve. As a woman, she has to do this, she has to do that, she's nothing.' In her life, she has all of these fancy props around her, but they don't mean anything. From *Spirit of the Beehive*, I got the look I needed for the desert sequences involving Madelyn and the little girl. That section of the film is about personal fears and personal identity, so the camera is closer and everything is warmer."

Medina shot on Kodak's 5298 for many of the film's interior but she used 5248 ("my favorite negative") whenever she could — primarily for studio sequences and



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the daytime desert work. She got to stretch a bit while shooting a number of haunting, spectral fantasy sequences — a Freudian metaphorical fugue of Eve walking on a tightrope; Eve's mystical dream vision of an elderly, mud-caked Earth Mother; and a surrealistic nightmare centered around a glowing, crucifix-shaped swimming pool. "We did the tightrope scenes in the studio, and we originally intended to shoot against a big pink background, but when we got there the background was green," Medina remembers, rolling her eyes. "We had to redesign the whole sequence, but we only had six hours. I decided to go for a black background instead, so we hung as many 20 x 20s as we could find. We originally were going to move the camera more, but since we couldn't I decided to achieve a sense of movement with the lights. I lit Tilda with a rock Par, which is like a spotlight with a blue halo around it, and I also used a dimmer system to change the levels of the other lights in the scene. All of the fantasies were done more or less in dissolves; I chose warmer colors, like gold and yellow, and then changed to colder colors like blue for the nightmares."

For the pool sequence, in which a submerged Eve sees a watery, warped view of her parents above the surface, Medina shot through Plexiglas to lend a sense of surreal movement to the character's point of view.

Reflecting upon her very personal contributions to the film, Streitfeld concludes, "Working on this material forced me to go into myself, and I can honestly say that it was an uncomfortable and painful process to peel away the layers of my personality and explore my own subliminal sexual fantasies. In most movies, women's fantasies are portrayed as pretty and sort of generic. I think *Female Perversions* is a kind of Rorschach test for the audience; you can really see where people are with themselves by examining their reactions to it."

Female Perversions will be released in the upcoming months by October Films. — S. Pizzello



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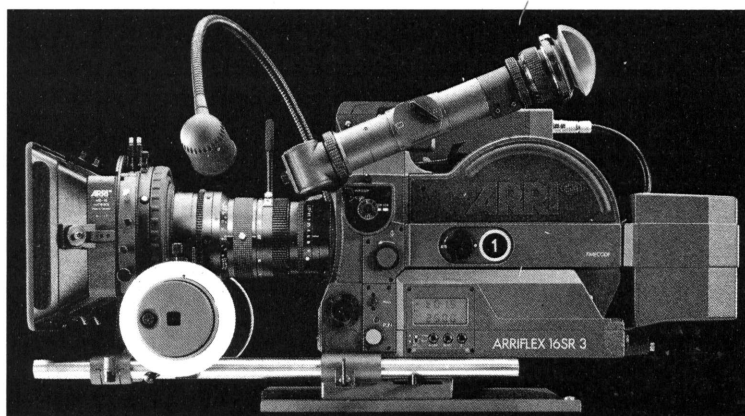
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AT DAWN ON A COLD FEBRUARY DAY in 1995, various filmmaking types, their families and several members of the media, including ABC and CNN camera crews, gathered in a nondescript, cluttered and somewhat shabby building in a working-class neighborhood on Chicago's North Side, home to a venerable documentary company with the tongue-twisting name of Kartemquin Films.

The group had come to West Wellington Avenue to get the first word on the Academy Award nominations. The filmmakers were looking forward to being picked in the documentary category for their critically acclaimed and audience-pleasing film, *Hoop Dreams*, a Kartemquin co-production about the complex role basketball plays in the lives of two inner-city kids who dream of making the NBA. The film had made many Best Ten lists, and some reviewers had chosen it as the best film of the year, period. So things looked good that morning. Surely, the work would receive a nod in the documentary category. And maybe — just maybe — it would earn a tap for Best Picture.

Of course, it wasn't to be. *Hoop Dreams* received one Academy nomination, for editing, and the press reacted strongly and even angrily. *The New York Times*, for one, reported: "The omission of *Hoop Dreams* prompted not only bewilderment but also questions about how documentaries are selected." The *Chicago Tribune*, for another, called it "a kick in the teeth." Even Tom Brokaw of the *NBC Nightly News* weighed in with an un-anchorish opinion, describing the snub as being, "for many of us, a big disappointment."

Despite the instant publicity gained from the *Hoop Dreams* hoopla, Kartemquin Films had been around for years — 29, to be exact — and had turned out an assortment of documentaries covering subjects from nuns asking passers-by if they are happy (*The Inquiring Nuns*) to the hostility of the medical profession to natural childbirth (*Marco*), racism (*Trick Bag*), workers struggling to save their jobs (*The Last Pullman Car*) and the life of an on-the-edge, politically-motivated artist (*Golub*),

the latter of which premiered at the 1988 New York Film Festival.

The films had been shown nationwide on public television and screened at such festivals as those in Berlin, Toronto, Chicago, San Francisco, Montreal, Leipzig, Melbourne, Sydney, Edinburgh, Florence, Dublin and Rotterdam, even earning a few awards along the way. But it was at the Big Muddy Festival in Carbondale, Il-

been receptive to people bringing in projects like ours," says Steve James, director and co-producer of *Hoop Dreams*. "There's never been rhyme nor reason, but it's always been a sort of gathering place.

"I don't think people realize that Kartemquin — which was on an incredible shoestring at that time — sustained *Hoop Dreams* for a number of years without receiving *anything*," James points out.

Kartemquin: A Different Kind of Dream Factory

For years, the Chicago-based company which helped produced *Hoop Dreams* has served as a haven of support for documentary filmmakers.

by Cliff Terry

linois that Kartemquin and *Hoop Dreams* first scored big points.

One of the longest-running documentary companies in the country, Kartemquin has always been a home to young, ambitious filmmakers, providing equipment, expertise and encouragement. At one point in its history, a collective of those interested in documentary techniques and social-issue subjects was formed within the overall company, resulting in relationships with Kartemquin that exist to this day.

That was one of several stages through which the company has evolved. "We started off, in 1966, as a corporation," says Gordon Quinn, a co-founder who is now a senior partner. "Our very earliest stated principle was to make films about social issues — and *not* to make money. You know, it was the Sixties, and we were committed to this grand vision."

"Unfortunately, it has held true," says senior partner Jerry Blumenthal. "But in the Sixties, it was like music to our ears. Now, it sounds like *Bela Bartok*."

"Kartemquin has always

"Because of their long history, they gave us instant legitimacy that we could draw upon by putting their name in our funding proposals. But they also sustained us by giving us a place to work out of, as well as advice.

"*Hoop Dreams* has made a difference to Kartemquin by sort of pushing them over the top [in terms of] becoming nationally known. But in many ways it just points out how greatly the odds are stacked against companies that choose to make documentaries. Right after *Hoop Dreams* they tried to get funding to do a film called *Art and Democracy*, about [Robert] Mapplethorpe and [Vaclav] Havel in Czechoslovakia and all the other stuff that was going on. And they had a devil of a time getting funding. If they were in Britain, with its long tradition and high regard for documentary filmmaking, a lot more people would have heard about them *without* [a film like] *Hoop Dreams*."

"For me, they're totally a treasure of Chicago," says Peter Gilbert, *Hoop Dreams* director of photography and co-producer, who segues between projects for

Kartemquin and filmmakers in Los Angeles. "It's tough to be a documentarian, because you're always begging. I'm pushing toward 40, and they brought me in 15 years ago and helped out *my* career, and now they have a whole other group of young filmmakers and they're helping *them*. And they've been doing this for 30 years, which is really a great thing. They're sort of like the Little Guys Who Could.

I think they've made really incredible films that haven't gotten them the recognition that they deserve, probably because their topics aren't sexy. But they make really great, community-based, social-issue productions."

Steve James and Fred Marx (who later became a *Hoop Dreams* co-producer and co-editor) had met Blumenthal at the Big Muddy Festival in 1986 when they were graduate students, and proposed their idea to him, after which Kartemquin decided to take it on.

"A lot of people, including those who should have known, were surprised to find out we'd shot it on videotape," says Gilbert. "Initially, we wanted to shoot film, but we had only \$2,000, and so the only way we could have shot 250 hours of material was on tape.

We did something which really hadn't been done before, which was taking [1.33:1] tape and putting it into a 1.85:1 aspect ratio. It took a long time — about four months — to get the transfer right. What happens a lot of times, if you blow it up square, is that you have black on each side of the screen, and a lot of movie theaters don't like running that. To do what we did, we had to digitally reframe every frame of the movie.

"As the director of photography, I was frustrated that I

was shooting on tape. You just don't get the same kind of contrast, or have the same latitude, that you do with film. You're trying to maintain a human feel without having that electronic, video-ish look. But what I quickly realized [about a film such as *Hoop Dreams*] was that it's the story that makes people watch, and not the photography. So it looks like videotape — big deal."

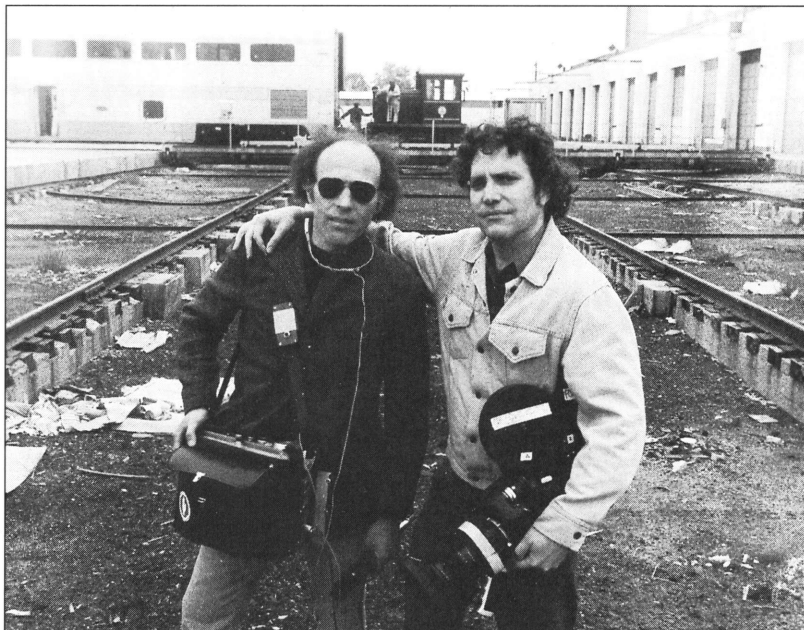


Photo courtesy of Kartemquin Films.

"It took seven years altogether to shoot *Hoop Dreams* and actually get it into release," says Quinn, who became the executive producer. "We raised money, sure, but basically we provided a base — a home — for production. We hooked up with KTCA-TV, the public television station in Minneapolis, and they became co-producer. They really were the primary funding body."

"What Kartemquin has done, which is very smart, is to own everything they need to make a film almost entirely in-house," says James. "That allows them to take a chance on things before they get the money. But it's been a struggle. One of my favorite quotes from Gordon is, 'We went bankrupt, but our bookkeeping was so bad, we didn't realize it.'"

The company's name is derived from the names of the original three founders: Stan Karter, Jerry Temaner and Quinn. In 1967, the year after the founding,

soundman Blumenthal came on board as a partner. Cracks Quinn: "We were thinking of calling it Kartemquinthal. In the Seventies, we made a real effort to change the name, but decided we'd just had it too long."

"We thought about starting the company when we were students at the University of Chicago," recalls cinematographer Quinn. "In 1967 Temaner and I did

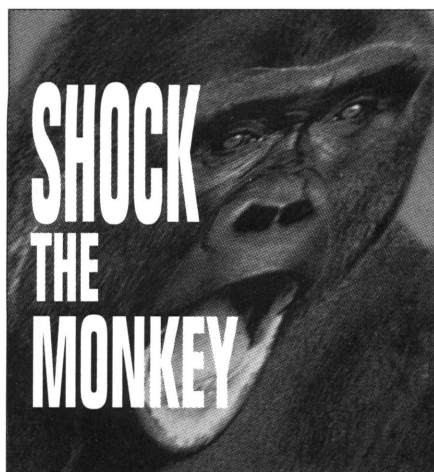
Home for Life, which is a classic cinema verité documentary. We followed an elderly man and woman going into an old-age home, and how they adjust or don't adjust over their first month.

"Right from the start Kartemquin has done stories set over time. It's one of our main characteristics," Quinn laughs. "Then in the late Sixties we did a series of films for Catholic Adult Education, such as *Thumbs Down*, which is about kids from a conservative parish getting ready to hold an anti-war mass. We followed the process and the aftermath. Years later, in 1983, we made *The Last Pullman Car*.

Gordon Quinn (right), a founding member of Kartemquin, poses with soundman and senior partner Jerry Blumenthal during production of *The Last Pullman Car*.

"Chicago has never been a big center of documentary filmmaking, but it's always had a certain element. We were all influenced by the early verité filmmakers — Ricky Leacock (*Happy Mother's Day*), the Maysles brothers (*Salesman*, *Gimme Shelter*) and D.A. Pennebaker (*Monterey Pop* and *Don't Look Back*, Bob Dylan's tour of England). Cameramen were always in the center of what was developing in this new kind of storytelling — looking at life as it unfolded."

In the early Seventies,



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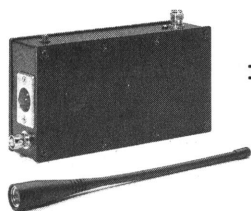
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Kartemquin shot a nationally-syndicated TV series, *Sports Action Profile*. "We were making some money, but not enough to keep us going," says Blumenthal. "So we did these profiles, and started investing in equipment."

Quinn picks up the story: "We wanted to [cover] some things we thought were important, such as labor. Here we were in the heart of the industrial Midwest, but you couldn't interest *anybody* in the mainstream funding sources. Labor? It's a *joke*. So we really did develop the idea to get some sort of a base here to support us. We've always had a foot in both camps. We do the corporate industrial stuff, and we also do our own industrial/educational films through funding from what we call 'the usual suspects,' such as public television, the MacArthur Foundation, the NEA, the Illinois Arts Council, the Illinois Humanities Council."

As we speak, Kartemquin is making a 15-minute film for a supplier of McDonald's — an industrial, corporate-image kind of piece. Other clients have ranged from United's Pilots Association and the Chicago Historical Society to Pepsi-Cola and Toyota. (The company also provides crews and postproduction services for other producers.)

For a period of about five years in the Seventies, Kartemquin started a Collective, which existed under the umbrella of the film company and used it as an economic base. Its participants eventually numbered 12 or 13 and included people who were not necessarily filmmakers but perhaps had been organizers or teachers and were interested in learning technical skills.

Films shot and/or completed during this period included *The Chicago Maternity Center Story*, a look at the closing of a patient-orientated, low-cost home-delivery focus; *Now We Live on Clifton* and *Winnie Wright, Age 11*, both of which center on the lives of city kids; and *Viva La Causa*, a colorful record of the making of a mural in Chicago's Chicano community.

Among those in the Collective were cameraman Peter Kuttner, who has maintained a close association with Kartemquin

and also has worked on a number of Hollywood features; Blumenthal's brother, Alphonse, who was the gaffer for director Andy Davis' Keanu Reeves/Morgan Freeman action movie, *Dead Drop*, shot in Chicago this winter; editor Sharon Karp, who now has her own company and is heavily into computer animation; and "the dean of Chicago video," producer/cameraman Jim Morrisette.

Then the Collective ended. "It was [due to] a combination of things," Quinn remembers. "We made some mistakes in terms of having too collective a leadership, and we never really did solve the problem of being able to get people a living. So we began to build different kinds of relationships. People would use Kartemquin as a base in a variety of byzantine ways I'm not sure I totally understand."

"A lot of people — like Jim Morrisette, Peter Gilbert and Peter Kuttner — have a stake in different parts of the equipment," explains Blumenthal. "If you ever saw the complexity of who owns what around here..."

In 1973 Kartemquin had moved to Wellington Avenue next to a factory. "This building was perfect for us," says Quinn. "It was big, it was empty, and it was cheap." Adds Blumenthal: "We were even able to have a storefront screening room in a space that had been Emily's Cleaners. We started dusting off and finishing films, including *Taylor Chain I: A Story in a Union Local*, which was about an Indiana local on strike at a chain factory that we had shot six years before." (The film would go on to win numerous awards.) We took it to public television — Channel 13 in New York — and they gave us some money and put it on their *PBS Non-Fiction Television Series*."

"In the early days," says Quinn, "we were very much into this verité style, which is basically shooting things as they happen in real time, seeing them unfold before the camera. You don't interview people or intervene in the situation. You don't set anything up. You just hang with people and tell it as it happens. So we were very purist."

"The purist style of cin-

ema verité is partly bullshit," inserts Blumenthal. "It's like everybody *knows* that there's a camera there, and if you have to be so careful to eliminate those moments that acknowledge or indicate that, you're going to fall into another kind of trap, another kind of artificiality, or at least sacrifice certain elements."

Having been in business so long, the Kartemquin folks, of course, have seen the evolution of technology and equipment. At one point, when most filmmakers still had to use a wire for sync between the camera and the cumbersome Nagra tape recorder, Kartemquin employed a crystal-controlled, wireless power supply for their old Auricon camera that was jerry-built on the cheap by a friend of Quinn's who was a physicist at the University of Chicago.

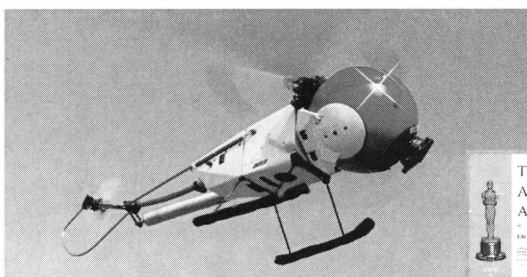
Now, Blumenthal and Quinn take me to a dusty room on the lower level of the building, where they proudly display an old German-made Steenbeck film editor. "It was state-of-the-art about 20 years ago," Blumenthal says with a sigh. "I mean, in those days you spliced with tape. You actually *touched* it."

"We were really into that side of it, and all that has really shifted," says Quinn. "Shooting and taking the pictures and composing the pictures and all those things are underlying principles which we understand. And I don't like finding myself being distanced from the new technology."

Blumenthal, at least, takes pride at having learned how to use the company's elaborate Betacam and Avid nonlinear digital editing system. "We wouldn't know how to use these systems if it weren't for the younger members of our staff. They're our *mentors*, because they grew up on this equipment and we didn't. Now, it didn't used to be that way. People would come to me and Gordon and say, 'Well, how do I thread up this thing?' Now, it's like you don't *touch* anything anymore, except a button, and you hardly have to touch *that*. All you have to do is *breathe* on it."

"But now that we've moved so much into the various video and digital technologies, we actually have the ability to finish

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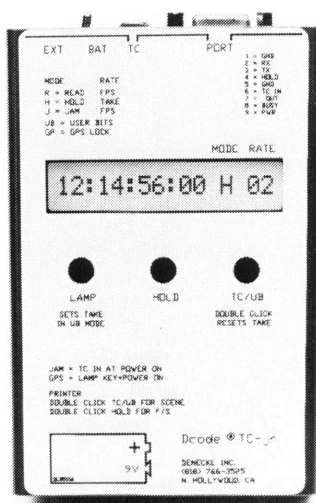
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Returning to their most visible production, I ask why *Hoop Dreams* was such a hit. What was it that touched both audiences and critics alike?

"My feeling is that it basically said to America, 'There's some hope,'" Quinn reflects. "It's a very positive story. It's a view of inner-city life that just isn't shown. All kinds of elements are in it, but they're in a proper proportion and not in the foreground. There's crime and fear, but there are also birthday parties and homework."

"But early on, we really had a lot of trouble raising money. We'd be talking to someone, and they'd say, 'Well, I don't know. There isn't much of a story there.' Someone even said, 'Now, if something really *bad* happened to those kids, *then* you've got a story.' Not only was that horrifyingly cold-hearted and crass and all of that, but dramatically, in terms of what's emotional and what will make people go into a theater, he was dead *wrong*."

Asked what was going through his mind that disappointing February morning the Oscar nominations were announced, Quinn hesitates. "You know, we had gotten so much attention. We knew we had a great film, but we just didn't think it had that kind of commercial potential. We had been so knocked out by everything that was happening, we weren't *crushed* by the Academy thing or anything like that."

"What was unfortunate was that it was another slap in the face at the documentary in general. It's the one category that seems to attract all the lightning. You know, there was a big scandal the year *Roger & Me* and *The Thin Blue Line* didn't get nominated. It detracts from the films that *are* nominated."

"Of course, *Hoop Dreams* couldn't have *bought* the publicity it got by *not* being nominated," says Blumenthal.

Director James agrees. "The only thing better for our film would have been to be nominated for Best Picture. The second best thing that could have happened was the snub."

Kartemquin's current and forthcoming productions include two documentaries with James and Peter Gilbert: *The New Americans*, in which they'll follow immigrants over three or four years from their country of origin to the United States, and *Stevie*, in which James reconnects with a boy to whom he was a Big Brother while in college.

Also on the books are *Sweet Dreams, America*, a longitudinal study of urban redevelopment on Chicago's West Side, and *Bridges & Boundaries: Chicago Crossings*, a look at the relationship of African-Americans and American Jews over the last century.

"*Sweet Dreams* evolved out of our connection Austin community groups, which were trying to organize a campaign to stop the Brach candy company from closing its stores and moving its operations south," says Blumenthal. "It has possibilities of following a bunch of very human stories over a long period of time, as well as telling a story with broad social implications. We've begun with some initial money from the MacArthur Foundation, and we hope it will end up on public television."

"This is a very good example of something that's very high-risk," says Quinn. "You know, it's very hard to make people see what the final story will look like. It's hard to describe. [Our idea is to] follow some of these characters and see what stories emerge from this process. You don't know what's going to happen, and it's very hard to get people on board for something where they don't see the payoff."

Quinn pauses, then smiles. "But I think people forget that when *Hoop Dreams* started, it was real high-risk. No one knew what the story would be. And yet the story we wound up with moved a lot of hearts."

Taking Stock of Light at Night

by Mary Hardesty

The 1996 Infiniti car campaign marks the first time Kodak's new 5287 stock has been used for black-and-white commercial broadcast purposes, and cinematographer Curtis Clark, ASC is extremely pleased with the results. "I've never had a situation where I was able to use the 87 stock to its full potential until now," he reports.

The color negative has an architecture that changes its contrast depending upon how it is exposed. This in-camera flexibility allows the cinematographer to maintain more control over the final product. Prior to using the stock, Clark was invited to Kodak's Advanced Imaging Department in Rochester, New York to meet with the designers of 5287.

"Usually, if you underexpose beyond a defined latitude, you run into problems, but this stock automatically changes the contrast when you change the speed rating, so the director of photography can delineate shadow details more cleanly," he explains.

Despite being a self-proclaimed purist when it comes to black-and-white photography, Clark chose to use color negative to render for black-and-white on this spot. He believes that the end results were superior to what he could have achieved using the available black-and-white film stock options.

"In my opinion, the image structure of 87 is absolutely remarkable when it comes to shooting night or low-key, low light-level scenes that require detailed rendering in shadow areas without using an extra fill light," states Clark, who reports that the 87 also handles flesh tones magnificently.

Before the start of the shoot, Clark was given an unheard-of two-day testing period to determine the best combination of car color and film stock for the extremely low light levels the producers had desired.

Clark's initial belief that a sil-

ver car, 87 stock and Primos were the best combination for the project proved to be correct. "We also tested Kodak's 98, but I don't think we would have been able to manipulate it as much in the telecine process," says the cinematographer, who also tested an experimental batch of both the 87 and 98 alongside the existing versions. "I had four stocks and two sets of lenses [Zeisses and Primos], so I was able to try all of the permutations. For the first time, I was able to test the lenses against each other at these low light levels, and, not to my surprise, the Primos were distinctly superior for this situation."

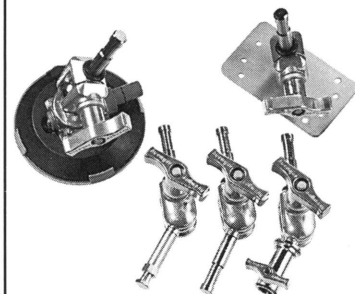
Clark decided not to use the experimental stocks for the actual six-night shoot because he didn't believe its benefits would have been applicable to this particular project. "They would only be a significant improvement if you were printing and projecting for a feature film where grain is a much bigger issue," he notes.

The new commercial marks a departure from Infiniti's prize-winning ads, which feature the cars as static images behind an urbane spokesman (actor Jonathan Pryce). According to Clark, the agency wanted a film noir look for this 60-second nighttime spot, in which four cars converge upon New York City. Here, Pryce is seen trying to hail a taxi as the luxury cars whiz by.

"What makes this spot doubly interesting is that the client went for a very innovative idea which had no precedent," offers the cinematographer. "The city itself is as much a character as the cars. The challenge was to come up with a solution that would work with the huge scenes we were going to shoot on the streets of Manhattan, so it would look somewhat stylized and marginally romantic instead of ominous."

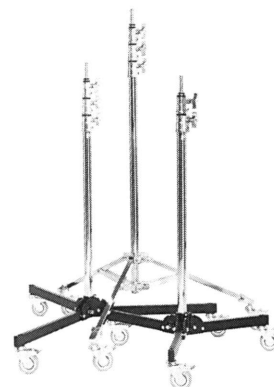
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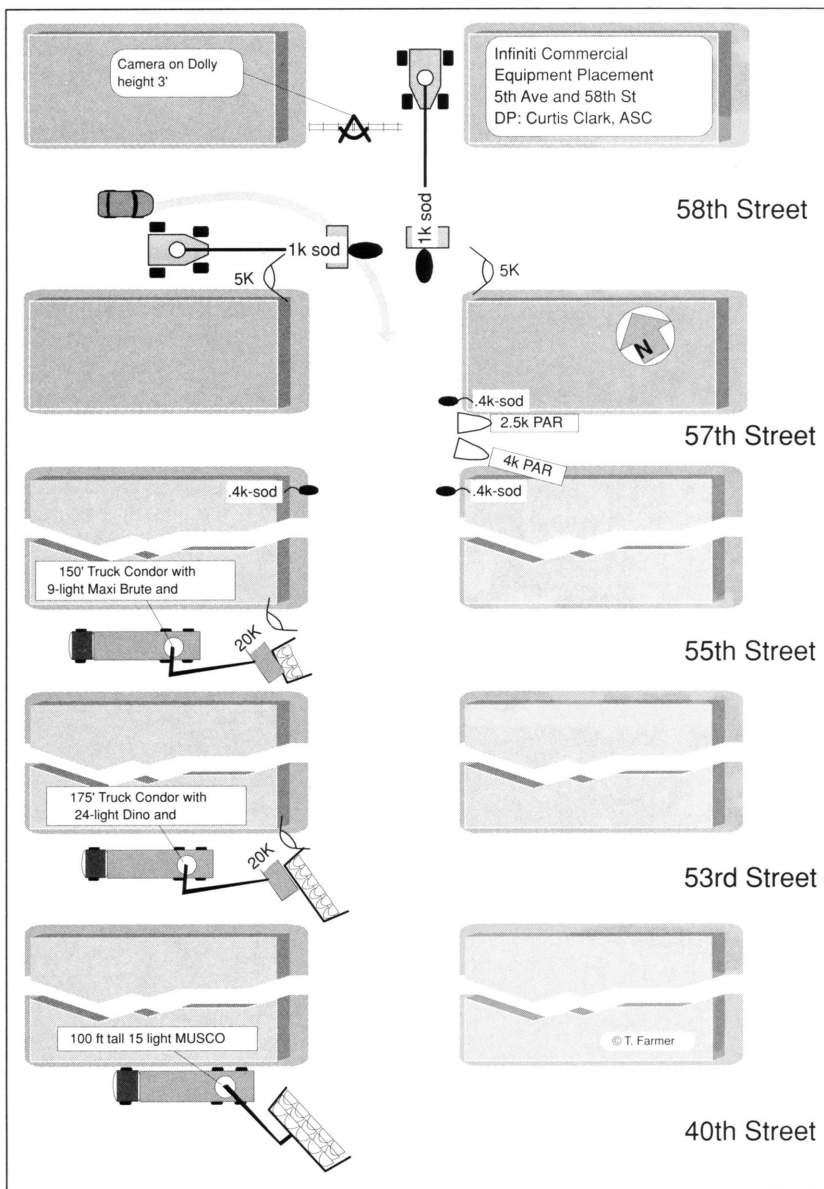
.4k-sod

150' Truck Condor

1k sod

Camera 35'
overhead tilted
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light to identify details on the Brooklyn Bridge. "The Manhattan skyline was in the background, the bridge was in the foreground, and I recreated the look of that last glow of dusk with huge Musco lights off camera left just under a mile from the farthest end of the bridge," he recalls. "That way, it gave a faint raking glow and picked up some of the details in the bridge's texture, instead of leaving a black void."

The next lighting dilemma for Clark was how to maintain that "real street" feel while still making the car look elegant.

"I decided to use high-pressure sodium street lamp fixtures to give off a warmish neutral tone, instead of the usual saturated yellow associated with

street lights," he explains. An extensive location scout of Manhattan determined that the average street light was 250 watts, so for shots where Clark could actually see the street lights, he switched the lamp heads to larger 400-watt heads. In general, when he wanted to give the effect of street lights without actually showing them, he used 1000-watt mercury-vapors on Condors off camera in the foreground.

Clark's largest lighting setup stretched south down Fifth Avenue, from the Plaza Hotel at 58th Street to 42nd Street. While the crew was rigging this ambitious scene, Clark took a handheld Aaton and used available storefront lighting to shoot some of the smaller scenes.

"I had to light about a mile,"

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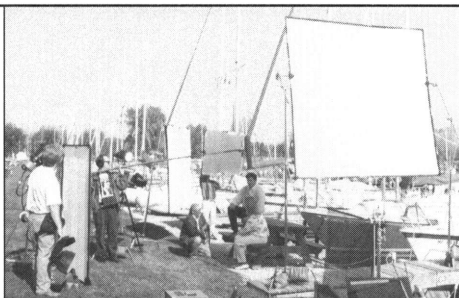


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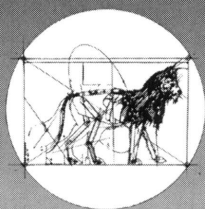
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recalls Clark, who first used re-globed street lamps in lieu of Fisher lights on *Dominick and Eugene*. "For this particular Infiniti setup, I put a Musco light at 42nd, and at periodic intervals off-camera I placed four Condors with 20Ks in them for continuous coverage. The Condor was the only way I could position the light to get the correct molding on the metallic silver cars."

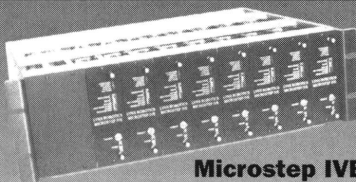
Clark credits the New York City Film Commission with making his job a lot easier. "Shooting in New York is always tough, and it was a nightmare juggle to fit all the shots into that schedule, but the police department helped us do things we couldn't possibly have done alone, and they did it with marvelous efficiency," he says. "We shot from 2 a.m. Friday until dawn. The police would shut Fifth Avenue down for the duration of our take, let the traffic through, and then we would do another take. Half of our time was spent getting the shot set up or cleared."

The Department of Street Works was not as helpful. "We had a huge scare when we came back to do a second scout of the big 58th Street location and found they were digging up the very place we were going to shoot," he says. "It took a lot to get them to finish by the time we started to shoot."

Clark reports that the client and the agency were thrilled with the technical and aesthetic success of the experiment. "To see something come to fruition that has a lot of experimental elements, and to see it work without compromise, gives me a great sense of satisfaction. I walked away feeling that something has been done that will make a difference."



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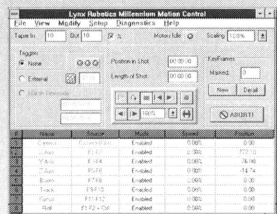


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Client: Infiniti
Agency: Chiat-Day
L.A. Director: Paula Grief
Creative Director: Charles Hall
Art Director: Duncan Milner, Sr.
Producer: Richard O'Neill

Digital Options Augment Traditional Hardware

compiled by Marji Rhea

Digital Camcorder

Panasonic's AG-EZ1U DV-Cam is a digital video format 3-CCD digital signal processing camcorder that weighs less than 2.4 pounds and will record one hour of digital video component video on a miniature DAT-sized 1/4-inch cassette. The handheld camcorder features three 1/3-inch IT CCDs to produce 500 lines of horizontal resolution, a signal-to-noise ratio of 54 dB, and minimum illumination of 5 lux, while drawing only 7.5 watts of power. Tapes recorded in the DV format can be played by DVCPRO studio VTRs with the optional AJ-CS750 adapter, facilitating the use of DV footage in professional applications.

The AG-EZ1U has a high-performance, high-precision mechanism that records advanced metal-evaporated tape for professional-quality recordings. The camcorder features a large, adjustable 180,000-pixel color viewfinder; digital electronic stabilization; a 10:1 optical and 20X digital electronic zoom (adjustable in four speeds); a 14-step electronic shutter; 4-step manual gain-up; 16:9 wide-aspect ratio recording capability; Y/C and composite outputs; auto white balance and black balance; 5-pin control; and stereo audio output. A stereo microphone is built in; the unit also accepts external microphones.

The camcorder's macro function permits close-up focusing down to a minimum distance of 1.5 inches. The user has manual control over iris, white balance, shutter speed and backlighting. The unit has a digital still-shot function that allows recording of crisp still images for about six seconds while audio continues as normal. A total of 290 still images can be recorded on a single 30-minute cassette, and 580 pictures on a 63-minute tape.

Professional features unique to the AG-EZ1U include an external 7.2-volt battery; car battery charger; cassette

adapter that allows a mini-DV cassette to play back in a DVCPRO VTR; soft carrying case; a one-year warranty on parts and labor; and a 1-800 technical support number.

Panasonic, (800) 524-0864.

MPEG2 Authoring Station

Digital Vision's BitPack MPEG2 Authoring Station is a real-time video encoding turnkey solution for the production of Main Profile @ Main Level MPEG2 files. BitPack's real-time MPEG2 video encoding capabilities are ideal for authoring for optical media, encoding for video archiving or compressing video content for video-on-demand distribution and transmission. BitPack also features advanced integral compression list management of the preprocessing functions.

BitPack borrows preprocessing technology from Digital Vision's professional line of image enhancement systems. This includes features such as adaptive video noise reduction, brick wall filtering with windowing for bandwidth shaping, and all other optional DVNR processing tools such as ASC and full primary and secondary color system. To get the most from the encoding process, there is also a pre-compression analyzer and processor to optimize picture statistics before encoding. For video derived from film, a scene-by-scene change and 3:2 pull-down detector is standard in the BitPack.

BitPack's efficient graphical user interface gives the user control over every aspect of the encoding process and features six main control groups: Preset, Store and Redefine; Source; Video Compression; Audio; Decoder and Target Media. With Preset, Store and Redefine, the user can select predefined setups, create new setups or alter existing setups. In the Source group, one can select from a variety of inputs including hard

disk, Beta SP and D1. If the media allows, the user can also append the current sequence onto an existing file. In addition, two operational modes are available, One Pass and Two Pass.

BitPack's video compression engine allows the user to select both fixed and variable bit rates and to specify a peak maximum and peak duration. This allows complex scenes to be given more space on the target media in exchange for simpler scenes which can be encoded at a lower bit rate.

The Motion Vectors setup mode lets the operator choose between four predefined operating modes: large, medium, small and none. These settings allow one to custom tailor the motion search area of specific scenes to maximize picture quality while optimizing the bit rate.

BitPack also provides total control over the audio parameters. Either analog or digital inputs can be selected, as well as sampling rate, the number of channels to use, compressed bit rate, audio delay and the layer in which the audio stream should be multiplexed into the final data stream.

To assist with monitoring playback, the onscreen Decoder Status Display gives instant verification of the decoder status.

BitPack allows the user to select from a variety of predefined recording mediums to which to offload the encoded video files. The operator can select the internal mass storage unit which gives more freedom in the encoding procedure. For direct transmission, BitPack outputs an MPEG2 stream to a remote decoder or for DBS upload and transmission. BitPack also supports HiDef authoring.

Digital Vision, DV Sweden AB, Upplagsvagen 1, S-117 43 Stockholm, Sweden, 46 (0) 818-2465, FAX 46 (0) 818-2466.

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Motion-Capture System

Polhemus has incorporated the latest DSP technology into its Ultratrak Pro, an expansion of the company's Ultratrak motion-capture system, which provides real-time, six-degree-of-freedom (in position and orientation) data from an unlimited number of sensors, at up to 120Hz. The data can be processed in real time for live broadcast or virtual set applications.

Using the Long Ranger transmitter, Ultratrak Pro provides a working area of more than 700 square feet. Drivers are available for all of the major software packages including Alias/Wavefront, SoftImage, Side Effects, 4DVision, and Hash Animation — with more in the works.

The Ultratrak Pro comes as a fully-integrated system in a 19" rack-mountable chassis. There are no complicated DIP switches to set: all control functions are handled by an easy-to-use GUI. Data is transmitted to a workstation over an Ethernet or SCSI interface, or may be saved to the integral hard drive for later processing. Ultratrak Pro uses patented low-frequency magnetic transducing technology, so there's no need to worry about maintaining a clear line of sight between receiver and transmitter.

Polhemus, One Hercules Drive,
P.O. Box 560, Colchester, VT 05446-0560,
(802) 655-3159, FAX (802) 655-1439.

Digital Cinema Processor

Dolby Laboratories' new digital cinema processor, the Dolby CP500, is entirely self-contained, with both Dolby Digital and analog decoding built in. Features such as software control and an easy-to-read LCD display make it simple to install and operate, while available options, including built-in loudspeaker crossovers, increase the system's flexibility.

Features include graphic displays and built-in test instrumentation (including a real-time analyzer) that makes it far easier to align and calibrate. The LCD screen and uncomplicated front panel simplify booth operations, and the processor's format selection software can be readily programmed to accommodate any existing or likely future format. Built-in diagnostics enable theater staff to verify performance of the complete sound system.

The CP500 comes in three versions. The CP500-D provides Dolby Digital capability as well as decoding for Dolby A-type and SR analog soundtracks; the CP500-SR omits the Dolby Digital decoding, which may be easily added later by means of plug-in circuit cards. The CP500-70 is equipped for all Dolby formats, including Dolby Digital and 70mm magnetics.

Dolby Laboratories, (415) 558-0200, FAX (415) 863-1373.

Color Grad and Day-for-Night Filters

Tiffen's new SkyFire and Twilight Color Grad filters feature a blend of several colors (in contrast to the single colors normally associated with the Tiffen Color Grad line) and can both be used to simulate dawn or dusk during regular daylight hours, or to help embellish what nature sometimes fails to provide when needed.

The SkyFire Color Grad starts out at the top with an ND/Red combination, then shifts to Salmon, gradually turns to Straw and then fades to clear. The Twilight Color Grad is a combination of deep lavender, gradually shifting to pink and then to clear. As with most Tiffen graduated color filters, the effect takes place on half of the filter, leaving the other half clear for shooting foregrounds without color.

The new color grads are available in sizes to fit all professional motion picture and video lenses, and come in grades of 1, 2, or 3.

The company's new Monochrome Day-for-Night and Cool Day-for-Night filters create a nighttime appearance when filming during the day, simplifying production requirements. The Day-for-Night filters, combined with proper exposure compensation, are an easy way to produce a realistic dusk or nighttime effect.

The design of the Cool Day-for-Night is based on the perception that moonlight is cool, and therefore bluish in color. To simulate a feeling of moonlight a particular shade of lavender is used, producing visual coolness while maintaining realistic flesh tones. Since the ability to see detail at night is diminished at lower light levels, a low-contrast component is added to the filter as well.

The Monochrome Day-for-Night filter takes advantage of the fact

that low light levels reduce the sensitivity of the eye to color, causing a more monochromatic effect: the filter skews the color balance so that the proper monochromatic effect can be created as the color timing is fine-tuned.

Tiffen, 90 Oser Avenue,
Hauppauge, NY 11788, (516) 273-2500,
FAX (516) 273-2557.

Time Code Generator

ESE's ES-181 Master Clock/Time Code Generator receives updated time information via an internally-mounted modem and indicates this information to the user in a variety of forms, including the nine-digit yellow LED display. Standard time-code outputs include SMPTE, ASCII, IRIG-B, ESE and 1PPS. Standard features include a four-hour battery backup, automatic daylight savings time correction and auto readal, all in a 1 3/4" rack-mount enclosure.

ESE, 142 Sierra St., El Segundo, CA 90245, (310) 322-2136.

Film Exposure Analysis System

Rank Cintel is developing a product which can be added to a telecine to provide digital readouts for exposure and color data. The new product will read the exposure level of a gray card shot at the beginning of each scene, presenting the data as separate red, green and blue levels, on a numerical display as well as in the form of simple RS232 data for logging into a PC or other system. When used with Rank Cintel telecines, the system will allow the operator to perform live color grading without compromising the validity of the data.

The exposure analysis system is under development in response to requests from cameramen, expressed to Rank Cintel and discussed at meetings of the BSC in late 1994 and early 1995 and with other manufacturers during the BKSTS conference at Visions '95 in September of last year.

Rank Cintel, Watton Road,
Ware, Hertfordshire, SG12 0AE, England,
44 (0) 1920 463939, FAX 44 (0) 1920 460803.

Portable Mixer

Sonosax has introduced an advanced version of the SX-S portable mixer, which garnered a 1995 Technical Achievement Award from the Academy

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Tel. (818) 346-1292, Fax (818) 346-7712

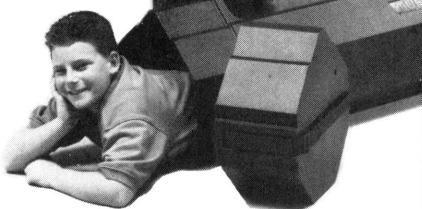

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Sonosax, 5417 Cahuenga Blvd., #C, North Hollywood, CA 91601, (818) 766-3137, FAX (818) 766-2859.

Oversized Motion-Control Rig

Image G has constructed a second version of its Bulldog, one of the world's largest portable motion-control camera systems. The Bulldog II features a 20-foot crane arm and offers real-time operation. It can repeat lengthy and complex camera moves with pinpoint accuracy, and is capable of gliding over precision LinTech track at speeds in excess of six feet per second. Control of the rig is accomplished via a system of stepper and servo motors originally designed for industrial robots, and a Kuper motion-control computer system.

Image G, 10900 Ventura Blvd., Studio City, 91604, (818) 761-6644.

Computerized Time-Lapse Camera System

Maxim Ford has developed a camera rig for time-lapse filming with graceful camera moves, a feat achieved using a 35mm camera on a custom-built motorized rig controlled by a small powerful computer, all driven by a sophisticated software package. The system can pan, tilt, track, zoom and control exposure times and is highly portable, operated by pocket computers powered by small batteries. Adjustable exposure times and special filters allow anything to be filmed, from the faintest star-filled sky to the brightest midday sun.

The computer controller moves the camera through up to 20 preset positions. The camera operates from two

frames per second down to one frame every few hours. The system can also allow the camera to go faster or slower, slowing down or speeding up the action. It is also able to lock on to the sun and follow it from any point on Earth.

The system uses two lightweight modified Camiflex 35mm cameras and comes with a complete set of lenses and filters. They have been used in all conditions, from the Argentine desert to the Arctic Circle.

The custom-built computers control the cameras and up to three axes of motion. For example, the camera can be made to pan, tilt and track, or to pan, tilt and zoom. It is also capable of automatic ramping in and out of moves and can calculate panning and tracking speeds. An astronomical program allows the camera to track the sun given the direction of north, the longitude and latitude, and the time.

The Camiflex cameras use computer-controlled motors and feature Nikon lens mounts with 400- and 200-foot magazines. The motorized Ronford F7 head allows 360-degree pans and 180-degree tilts, and can be mounted on tall legs, short legs, hi-hat or dolly.

A motorized dolly can track the camera on a pan-and-tilt head on a custom-built lightweight aluminum track which can be laid in lengths from 1 to 7 meters. This can be set up on the ground on wooden blocks or mounted on scaffold poles. In addition, the dolly and camera can be underslung from a scaffold support.

Also available are specially made high-density filters for long exposure times, plus a range of standard color correction and graduated filters.

Maxim Ford, 27 Birstall Road, London N15 5EN England, 44 181802 8791, FAX 44 181 211 8286.

Wally Light Kits

Cinemills' CMC Wally Light Kits are available in both 200W and 575W versions. The all-in-one head is extremely lightweight and features an electronic flicker-free ballast, reflector, four-piece lens set, fresnel lens, barndoor, Chimera lightbank and ring, globe and custom carrying case. The electronic ballast is absolutely quiet and eliminates flickering and strobing up to 10,000 frames per second.

Cinemills Corporation, 3500

W. Magnolia Blvd., Burbank, CA 91505,
(818) 843-4560, FAX (818) 843-7834.

10,000W Flicker Generator

Magic Gadgets' single-channel 10,000W flicker generator makes possible fire and other large-scale lighting effects. It can also be used as an inline dimmer without flicker effect. 16 different selectable programs in an integrated circuit memory provide automatic random or regular changing light. The high-resolution flicker makes several level changes.

In typical use, the low dimmer knob is set to the level that the lamp will not go below and the high dimmer knob is set to the level the lamp will not go above, when the effects are enabled via the on button. Flicker action takes place between these two settings. This "flicker window" can be compressed to allow for subtle or dramatic effect.

The flicker speed control covers a wide speed range. Several of the programs are digital samples of actual events, including firelight, candles, television sets, movie screens, and other changing light sources.

On/off buttons allow manual flicker or silent switching when the unit is used as a dimmer only. A flicker signal interface directly drives several additional dimmers if more light is needed.

Standard configuration features color coded tactile feedback, on/off/reset buttons, low dimmer and high dimmer level controls, flicker delay (speed) control, 100-amp magnetic circuit breaker, toggle switches for effect selection, and ground and output indicators.

Magic Gadgets, P.O. Box 4244,
Portland, OR 97217, (503) 286-4193.

Helmet Camera Mounting System

Alan Gordon Enterprises' Helmet Camera Mounting System, designed for shooting hard-to-get action POV shots, is set up for use with the company's 16mm Minicam and can be adapted to accommodate other motion picture, still photographic and video cameras.

Each helmet has a Newton ring sight for precise camera alignment. The camera mounts on the helmet quickly and easily by a combination of straps and heavy-duty interlock ring tape.

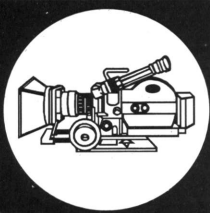
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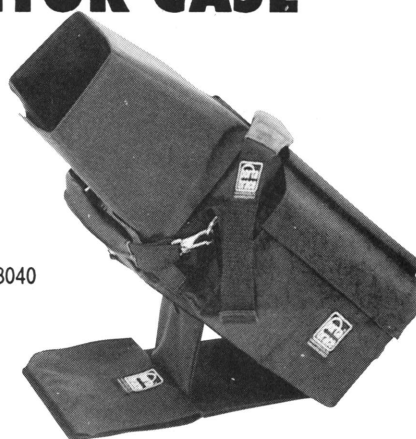
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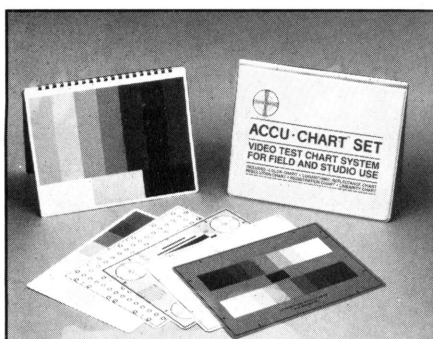


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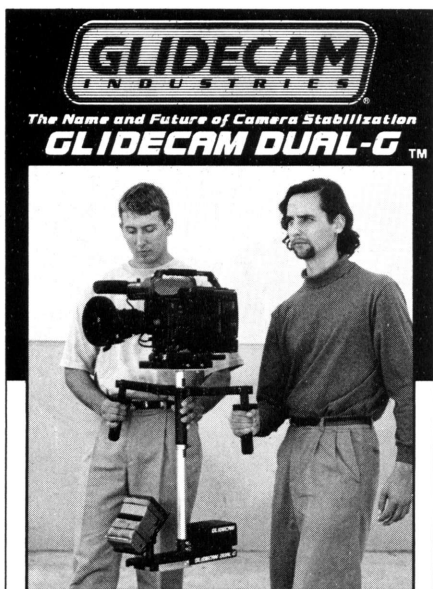
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Two systems are available, both weighing under 2 pounds without the camera. The HC-1 Helmet System features a helmet with a sliding jaw and adjustable chin cup for a customized, comfortable fit. The HC-2 System features a lighter weight, open-face helmet with an easy release chin strap.

Alan Gordon Enterprises, 1430 Cahuenga Blvd., Hollywood, CA 90028, (213) 466-3561, FAX (213) 871-2193.

Equipment Case

The Kataband Multilong case from Band Pro Film/Video is a roomy, multipurpose soft case designed for transporting a wide range of video or film equipment, from a lighting kit to a fluid head with tripod installed.

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The bag is available in a semi-soft model stiffened with foam and plastic, or a rigid, stackable version reinforced with aluminum staves. The bag can be comfortably carried using the padded handles, ergonomic shoulder straps, or backpack-style straps.

Band Pro Film/Video, 3403 West Pacific Avenue, Burbank, CA 91505, (818) 841-9655, FAX (818) 841-7649.

Super 16 Zoom Lenses

OpTex has launched a new series of OpTex/Canon Super 16 zoom lenses. Designed and manufactured by OpTex using high specification Canon optics, the first of these lenses is the Super 16, 10.5-210mm, T2.4 zoom, available with an Arri PL, Arri Bayonet, or Aaton mount.

Zoom, focus and iris controls are engraved with large luminous scales and are fitted with 0.8 pitch gear rings compatible with studio follow-focus rigs, manual fluid zoom drives, and motorized control systems. Other accessories include Super 16 production matteboxes and sunshades, 2X Super 16 range extenders and a front-of-lens image stabilization attachment.

The lens features an automatic coupling system between iris and zoom

drive gears which prevents setting the focal length or iris to impossible values.

The lens can be factory converted to an Electronic Cinematography lens for use on cameras such as the Sony Digital DVW 700 range or other B4 mounted cameras.

OpTex, 20-26 Victoria Road, New Barnet, N. London, EN4 9PF, UK, 44 (0) 181-441 2199, FAX 44 (0) 181-449 3646.

Four-leaf Barndoor

Sachtler's RD50 four-leaf barndoors, designed for their Reporter 20H and 50H on-board compact luminaires, can be retrofitted on all existing Reporter 20H and 50H models. The luminaires' dichroic daylight conversion swing-in filter remains operable with the barndoors mounted. It can be swung in and out between the luminaire and the barndoors. The luminaire weighs 13.6 oz (386 grams) including barndoors, cable, and XLR battery plug.

Sachtler, 89/321 58-242, FAX 89/321 58-227.

Time Base Corrector/Synchronizer

Prime Image's Xpon time base corrector synchronizer has component capability for both input and output and is available in plug-in circuit boards for the AT bus of any PC. The unit meets or exceeds all technical standards for broadcast, and allows the mixing of component and composite sources for multi-input switcher effects. Signals are transcoded between component and composite, as well as Y/C both in and out. Xpon is available in NTSC, PAL or PAL-M. The most advanced standards conversion available, featuring Prime Image's five-field interpolation system, can be added to Xpon as an option.

Prime Image, 19943 Via Escuela, Saratoga, CA 95070, (408) 867-6519, FAX (408) 926-7294.

Dimming System

The SCRimmer Stik from Electronics Diversified is a new low-cost, lightweight, portable SCR-based dimming system.

Based on the dimmer-per-lamp concept, SCRimmer Stik features four channels (four outlets) to connect up to 600 watts per channel of incandescent or

quartz lighting loads. Various output connector types are available.

System communications is based on the USITT standard DMX-512 digital protocol. Multiple SCRimmer Stiks may be daisy-chained together; an optically isolated DMX-512 interface allows the control signal to pass through one SCRimmer Stik to the next. On-board electronics provide load, temperature, and power protection.

The unit is one of the industry's easiest to use; simply plug it into a 20-amp outlet and connect the loads. It is rated for a full 20 amps of power input. Lighting levels may be preset directly on the Stik, or from any DMX-512 controller.

The Stik is made from panel-grade .080 aluminum, weighs 7.5 pounds, and measures 1.75" x 2.6" x 36".

Electronics Diversified, 1675 NW Cornelius Pass Road, Hillsboro, OR 97124, (800) 547-2690, FAX (503) 629-9877.

Xenon Packages

The newest in lightweight electronic Xenon fixtures are now available from Tek Lighting, in packages ranging from 1 to 7 kilowatts. All sizes are single-piece electronics with the ballast located in the head fixture. All fixtures offer electronic ballasts, electronic focus, perfect focus mounting system, super bright reflectors and light weight. The 7KW weighs approximately 88 pounds.

Tek Lighting, (615) 370-3694, FAX (615) 370-3380.

Portable Grip System

The GAM Shadowmaster from Great American Market is a lightweight and portable grip system that can be used with almost any light. The hexagonal frame is magnetized to allow shadow bars and other accessories to set in place quickly and easily.

The system replaces a collection of fingers, cookies, dots, flags, correction and diffusion materials, and a multitude of C-stands with one portable kit. Each kit includes a filter caddy case with 20 storage tubes that can hold diffusion, correction filters and the Shadowgram special patterns created for the Shadowmaster.

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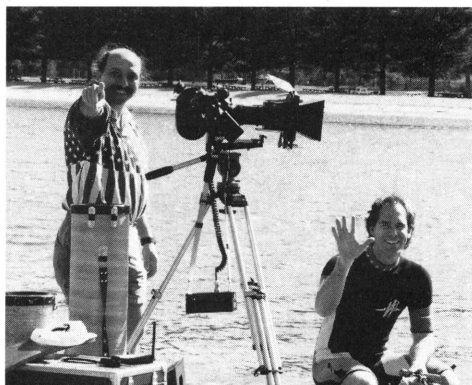


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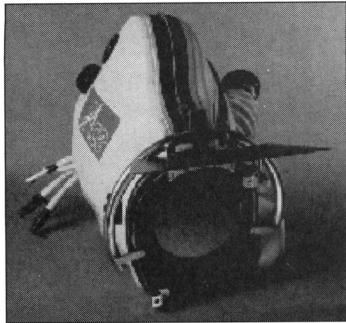


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Digital Displays

ESE has introduced five different digital display products, all featuring large 4"-high red LEDs that are viewable from 120 feet and housed in a black texture-painted wall mount enclosure. They are available in stand-alone clock and timer models and remote slave displays.

ESE, 142 Sierra St., El Segundo, CA 90245, (310) 322-2136.

Digital Video Analyzer

New from SyntheSys Research is the BitAlyzer DVA184 Digital Video Analyzer, which measures the quality of a serial digital video signal for the broadcasting, manufacturing, and high-end postproduction arenas. The unit addresses many of the analytical tasks video engineers have thus far been unable to perform easily, and identifies a selection of information previously available only by use of a combination of many individual test instruments.

The Analyzer can generate still test images and log error events as well as complete errored frames. It generates multi-format test patterns for the user with 360/270/143 Mb/sec test patterns. Output can be either live input or images from its internal frame buffer. The user can also create output that is corrupted with bit errors or with varying amounts of sinusoidal jitter. The unit also allows automatic error frame logging to its internal disk drive by using trigger events to define capture criteria.

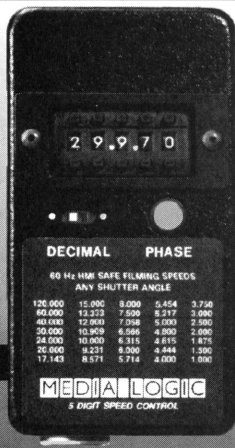
The user has a choice of selecting multiple intuitive graphical test modes, the results of which can be displayed in a variety of representations.

SyntheSys Research, 3475 Edison Way, Suite D, Menlo Park, CA 94025, (415) 364-1853, FAX (415) 364-5716, synthsys@well.com.

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Breakthrough in Flat-Panel Displays

by Frank Beacham

It's been a long-held theory by many in the television industry that the eventual success of high-definition television depends on the availability of affordable, thin, unobtrusive wall-hanging video displays. Yet, even as home theater technology has advanced in recent years, the flat-panel wall display for home video viewing has remained an elusive dream — but perhaps for not much longer.

At least three major electronics manufacturers have revealed separate breakthroughs in plasma display technology that could lead to the commercial availability of lightweight, large-screen video displays as early as the end of this year.

Fujitsu has developed a 42-inch diagonal color plasma display that it will begin manufacturing in volume this October. Sony is tentatively calling its new technology "Plasmatron" and expects to introduce a flat-panel display for large-screen use sometime this year in Japan. And Mitsubishi has told its top U.S. dealers that it will have flat-panel plasma displays (from 20 to 40 inches) on sale in the United States by 1997.

These new displays are expected to be expensive at first. Sony did not estimate prices, but Fujitsu said that its 42-inch color display would initially cost about \$10,000, dropping quickly to half that price. Mitsubishi said that initial retail prices for its displays would be in the \$8,000 to \$10,000 range.

Fujitsu's 1.38"-thick, 40-pound, 16:9 aspect ratio color plasma screen operates on the principle that a gas discharge radiates ultraviolet light which excites phosphor and produces visible light.

Fujitsu's unique surface-discharge technology uses a pair of transparent electrodes on the front glass plate and a single electrode on the rear plate. Between the sets of electrodes is a discharge cell filled with a mixture of neon and xenon gas. When electricity is applied between the electrodes, a surface-

discharge is generated resulting in the radiation of ultraviolet energy. This, in turn, excites the red, green and blue phosphor dots. An image is generated on the color display by controlling the luminance (brightness) of each of the individual color phosphors.

Using this technology, Fujitsu created a display with a wide viewing angle of up to 160 degrees. The manufacturer claims an image quality far superior to today's rear-projection displays and on a par with the best contemporary CRT (cathode ray tube) screens.

Mitsubishi has demonstrated a 20-inch diagonal version of its "Plasma TV." The unit, which can be wall-hung or free-standing, is two inches thick, weighs 25 pounds and has a 4:3 aspect ratio. It has a viewing angle of up to 140 degrees. The company said it was intended as a preview of a 40-inch model that it plans to release in mid-1997.

Though Mitsubishi offered no detailed description of its plasma technology, a spokeswoman offered a brief overview: "The display is a sealed glass envelope filled with rows and columns of small gas chambers. When that gas is energized, the chambers form a plasma which causes the phosphors to glow. This provides the picture."

Sony has demonstrated a 25-inch diagonal, 16:9 aspect ratio, free-standing display. The prototype was 23.7" wide, 15" high, 0.1" thick and weighed 3.7 pounds. The display is based on Plasma Addressed Liquid Crystal (PALC) technology, which Sony jointly developed with Tektronix.

The plasma discharge phenomenon, which results from passing voltage in a tube filled with low-pressure gas, is normally used as a light-emitting source. With PALC, however, the plasma is used as an electronic switch and has similar functions as a three-terminal active component such as a transistor.

"The display is an active matrix system that separately addresses (ac-

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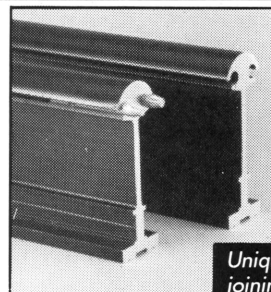


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cesses) each pixel of the liquid crystal, allowing for a beautiful range of colors, high picture quality, high contrast and smooth display of moving images," Sony has declared in a white paper on its technology.

A backlight, independent of the display panel, is used as the light source to reproduce a bright image. Each single scanning line corresponds to a single plasma channel and the entire picture is composed of about 450 such channels. This, Sony said, makes for a relatively simple structure that is suitable for large and lightweight screens.

A pixel in the Sony system is made up of layers of transparent electrodes that consist of a color filter, liquid crystal and insulation film with a plasma channel (plasma discharge electrodes and filled gas) under them. These plasma channels are connected in a straight line. When an electric discharge voltage is applied to a single plasma channel, the switch, which has the same width as the picture screen, turns on. Then, image signals equivalent to a single scanning line in a CRT display are input into the liquid crystal instantaneously.

Every time a plasma channel discharges and shifts down to the next scanning line, data is input into the corresponding liquid crystal to complete the whole picture. Each pixel retains its state of liquid crystal until new data for the next frame is input.

In order to create the multi-layered panel, Sony said it independently developed a new high-precision screen printing technology that can be implemented in low-grade clean rooms rather than a semiconductor facility. This, the company said, would keep the manufacturing process simpler, resulting in higher yield rates and lower costs.

In making a prediction as to how consumer HDTV home theater technology will evolve, Glenn A. Reitmeier, director of the High Definition Imaging and Computing Laboratory at the David Sarnoff Research Center in Princeton, NJ, said he expects light-valve video projectors to come on the scene first, followed by CRT displays and, finally, plasma displays.

"I think this will play out over the next five to seven years," Reitmeier stated. "But I qualify that by saying it's one of those things where you stick your finger in the air and make a guess." ☛

Books in Review

by George Turner

A Thousand Faces

by Michael F. Blake
Vestal Press, 398 pps.,
paper, \$19.95

Michael Blake, a Hollywood makeup artist, is probably the leading authority today on the life, films and working methods of the great character actor Lon Chaney. Some years ago, Blake wrote the well-received *Lon Chaney: The Man Behind the Thousand Faces*. Although he had intended it as his definitive study of the actor, he unexpectedly came into possession of so much further information that he felt a sequel was mandatory. The previous effort was first and foremost a biography of a man and only peripherally a story of motion-picture production. This time, along with additional biographical details, more attention is given to the films themselves and to others who were involved in them.

Blake reveals that Chaney performed in at least 156 films; only 41 of which survive. The author goes into considerable detail about Chaney's character and personality, information derived from further interviews with co-workers and material from the files of Alfred Grasso, Chaney's business manager in the early 1920s. He refutes the widely supposed idea that Chaney was morose and cruel, citing many instances of his kindness to others.

A Thousand Faces contains a lot of previously unpublished photos and it has a lot of heart. It definitely is a good shelfmate for the previous biography.

Orson Welles: The Road to Xanadu

by Simon Callow
Viking, 640 pps.,
hardback, \$32.95

The mass of published books about Orson Welles form an impressive display at the Margaret Herrick Library of the AMPAS. The interpretations of events in the man's life are enormously varied, and are certainly not clarified by

his own flamboyantly fanciful accounts. The latest arrival, *Orson Welles: Road to Xanadu*, is a hefty tome in itself, yet it is but half of a projected two-volume set from England. It covers the early adventures of the child prodigy from Kenosha, Wisconsin, beginning with his childhood and tracing up to the week of his 26th birthday and the release of his first feature film, *Citizen Kane*.

Taken together, the two volumes will comprise the most ambitious attempt to date to encapsulate the life and career of a man whose influence on theater, radio (before it was given to the disc jockeys) and motion pictures has been both enormous and controversial. The author is Simon Callow, a British actor and director who has written several previous books and has tackled his subject in this instance with infectious enthusiasm. The amount of research is prodigious, and the writing is enhanced by the writer's eagle-eye for details. He gives us both the charm and the wartiness of Welles in a more balanced view than is evident in either the worshipful or the denigrating approaches most writers have given us. For example, the controversy over the writing credit for *Kane*, which provided fodder for Pauline Kael's Welles-bashing book, is not glossed over. He seems anxious to prove up some homosexual relationships for Welles, but this remains speculative.

All in all, Book I is fascinating reading. Let's hurry up with Book II.

British Film Studios: An Illustrated History

by Patricia Warren
Batsford/Trafalgar Square,
192 pps., paper, \$27.50

Patricia Warren, British actress and TV producer, covers a lot of territory in telling the history of all the movie studios in England, past and present. She does it very well, too. In view of the financial ups and downs that have plagued filmmakers in Britain since Westminster Studio opened in 1897, it

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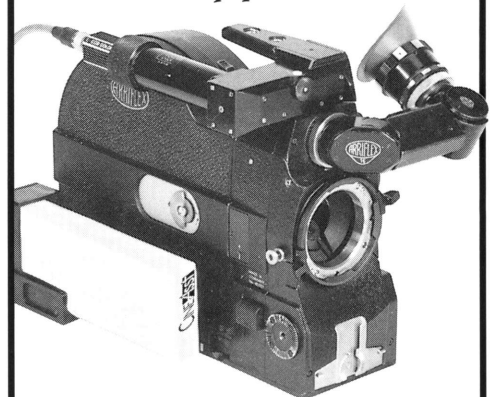
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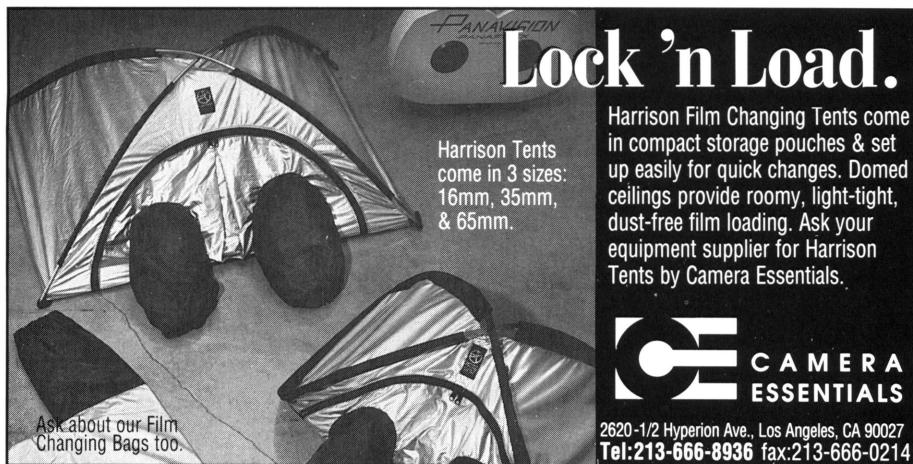
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may come as a surprise to learn that close to 100 different studios have existed in and around London during the past century. Sadly, only a few remain.

British movies have taken a bad rap over the years, not only from us Yanks, but even from English audiences, who acquired a taste for American movies. It's a bloody shame, because so much prime stuff has come from the U.K. Off the top of the head one might mention *The Private Life of Henry VIII*, *Thief of Baghdad*, *Hamlet*, *The Red Shoes*, 30 Alfred Hitchcock pictures, the Ealing comedies, *In Which We Serve*, the best Dickens adaptations, *The Third Man*, the James Bond films, *The Queen of Spades*, the Hammer thrillers, *Lawrence of Arabia*, and hundreds more that have enriched our film heritage. Even the widely despised "quota quickies" of the 1930s and '40s yielded some jewels that still sparkle. It's fascinating to read of the origins of these companies in old manor houses, warehouses, factories, etc. For example, the first Twickenham studio was converted from an old boat shed on Eel Pie Island; the larger Twickenham of 1913 (still in use today) was a former skating rink.

There have been previous books devoted to individual studios such as Elstree, Pinewood, Ealing and Hammer, but this appears to be the first attempt to cover all of the British studios. Lavishly illustrated, it deserves a space on the bookshelf of anyone with an interest in motion-picture history.

Addendum:

It's time for all of us who write about Citizen Kane to stop perpetuating the myth that Susan Alexander Kane, the pathetic wife whose husband built her an opera house in Chicago and pushed her into a disastrous operatic debut, was an accurate screen representation of W.R. Hearst's mistress, Marion Davies. Actually, Davies was a very successful screen star. Hearst did not build her a studio, but she starred in several of his many Cosmopolitan Productions, which were made by MGM and Warner Bros.

On the other hand, a certain Chicago millionaire did have a singing protege whose voice, one critic observed, would curdle milk; he built an opera house for her, and her self-produced operatic ventures were ghastly. She's a much likelier model for the second Mrs. Kane.

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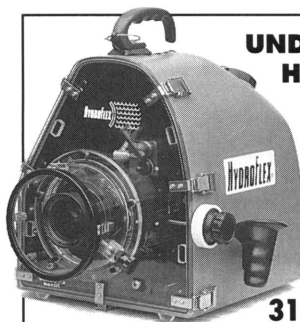
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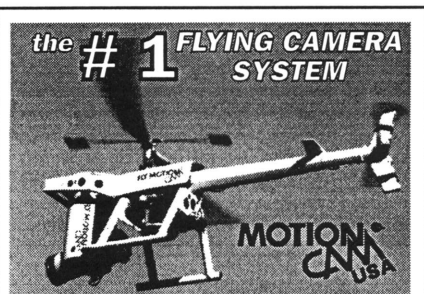
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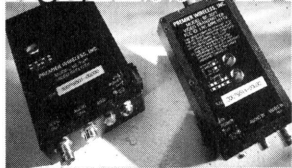
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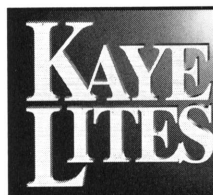


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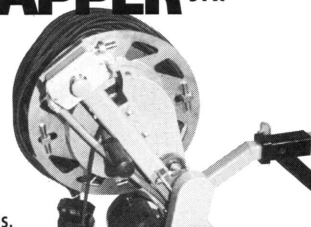
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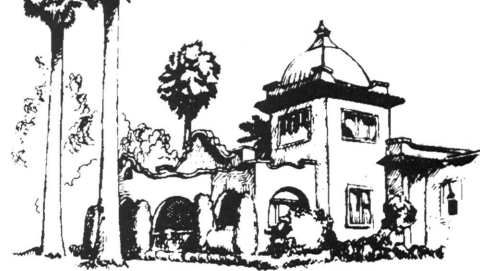


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From the Clubhouse



ASC Stages Bat-Dinner at Clubhouse

Selected segments of *Batman Forever* were screened at a unique dinner meeting held at the ASC Clubhouse in Hollywood on January 29. On hand to discuss their work on the film were the film's director of photography, Stephen Goldblatt, ASC (who earned both Academy and ASC Award nominations for his photography), visual effects supervisor John Dykstra, ASC, producer Peter MacGregor-Scott and Joe Matza, head of Composite Image Systems, which handled much of the digital work on the picture. Each member of the group elaborated on the struggles and logistics of mounting such a massive undertaking. MacGregor-Scott provided a newly-struck 35mm print of stunning clips for projection onto the ASC's recently installed theatrical screen. Dinner meeting chairman Robert Primes, ASC organized and hosted the event to full-house attendance.

As each clip from the film was viewed, the projector was stopped and the floor was opened for questions about the film's groundbreaking integration of production design, lighting and visual effects, which blended to create a series of lush and stylistic images.

Goldblatt explained that the impressive results were possible only because of an intensive four-month preproduction schedule and a production-wide mandate that everyone on the film should be open to all suggestions. "We were encouraged by the director, Joel Schumacher, by Peter MacGregor-Scott, and by Warner Bros. to use our imaginations," he said. "They weren't looking for us to be safe. Everybody was encouraged to take risks. I can't image a better situation to be in, but it scared me to death."

Segments viewed from the film included the opening sequence in the Batcave, the daunting theatrically-lit circus-tent set, the blacklight-lit fight in the alleyway, and the climatic confrontation in the Riddler's Lair, a set which incorporated 96 computer-controlled Vari-Lights into the production design (see *AC July 1995* for complete details on the film).

At one point in the proceedings, ASC associate member Rob Hummel of DreamWorks SKG asked the panel for their predictions about the possibility of "virtual

sets" replacing standing sets and lighting. "A lot of people think that virtual sets will allow us to shoot the actors on a bluescreen and then bring in all of the lighting effects entirely digitally later," Hummel offered. "But I still think that there are [important] situations where you can achieve the artistry while you are actually within [a live] environment, and achieve things directly off the actors that might influence their performance: [for example,] in the way you decide to play the light on Nicole Kidman's hair [in the previewed scene.]"

Goldblatt smiled and responded, "If our profession is to be imaginative, then yes, in theory we can imagine the light playing on a beautiful woman's hair. But [lighting on set] gives you the opportunity to set something up, see it, change it, and get excited by it. You then look to your colleagues and your gaffer and say, 'God, that looks good! But let's quickly do this . . .' I find, again and again, that the last five minutes before you're ready to roll is when you have your best thoughts. I can't imagine anyone being so good, so clever, so controlling that they can say, 'We'll just do this, and then we'll plan that, and it'll look fantastic!' I don't see it. Human beings don't seem to work like that, and it's nonsense to think that everything can be done in advance. The pressure of production is

what makes us good. It's collaborative — even to the girl who looks to you and asks if you like that color of red on the actress's lips. It's collaborative and that's what's great about it. I don't want to be relegated eventually to a small room with a recordable CD-ROM and no one around me!"

Allen Daviau, ASC inquired about the lighting used to illuminate Batman's costume, saying, "It seems that the style of large-source lighting that you were using for Nicole Kidman seemed to work very well for the Bat-suit too. Was that something that you discovered early on?"

"The Bat-suit evolved as we got better at it," Goldblatt explained. "We eventually put an actual metal into the rubber so that it became like a pearl finish. We then continued to light the Bat-suit as if we were lighting a car; that same car-lighting works well on women, too — something soft that reflects. Of course the problem with the Bat-suit was the eyes. To bring them up, we always had a big Obie light on the lens."

As the evening concluded, Robert Primes praised the efforts of the speakers, thanking them and stating, "I think *Batman Forever* defines the technological state of the art for cinematography in 1995."

— Chris Probst



Apologies for the omission of this photo from the February Clubhouse News. Attendees at the first of a series of meetings on the East Coast included: (seated, l-r) Torben Johnke, ASC, Michael Ballhaus, ASC, Victor Kemper, ASC (president), Sol Negrin, ASC (president, Local 644), (standing, l-r) Jim Hovey (business agent, Local 644), Lou D'Agostino (executive director, Local 644), John Kowalak (retired director of photography), Michael Johnson (Kodak), Don Doniji (associate member, DuArt), Stan Miller (associate member, Rosco), Ira Tiffen (associate member, Tiffen), Ernest Dickerson, ASC, Fred Schuler, ASC and Volker Bahnemann (associate member, Arriflex).

The Girl from Missouri



Photo from the Bob Birchard Collection.

It was probably pre-ordained that Anita Loos, the perky and witty playwright who coined the oft-quoted title, *Gentlemen Prefer Blondes*, would eventually write a screenplay for Jean Harlow. There is little doubt that in her day, Harlow was the blonde preferred by more men than any other in the entire world. But Loos revealed that the inspiration for the fabulous blonde of *Gentlemen Prefer Blondes*, which was written before Harlow's rise to fame, was Mae Clarke.

In this on-the-set photo from MGM's comedy classic *The Girl From Missouri*, Miss Loos, co-author (with John Emerson) of the script, is the brunette sitting next to the camera, watching the "blonde bombshell" emoting with Lewis Stone. We haven't been able to

identify the young man with the script in his lap.

We do know that this shot was made very early in the production by the fact that the cinematographer pictured is Hal Rosson, ASC, and the director (sitting with Loos) is Sam Wood. Wood and Rosson started the picture in April 1934, working from a cleverly risqué script. At that time the Hays Office had just begun enforcing a new production code with longer and sharper teeth than before. The screenplay was rejected and had to be called in for repairs. Wood shortly asked to be removed from the film because he "did not agree with changes in the story as ordered by the Hays Office." MGM then announced that it was shelving the picture indefinitely.

By the end of April the picture resumed production, with Harlow under the direction of Jack Conway and with Ray June, ASC serving as director of photography. The picture turned out swell and, despite the whackings of the censors, the *New York Times* called it "one of the most torrid efforts to emanate from any studio in some time." The cast was top rank, with Lionel Barrymore, Franchot Tone, Patsy Kelly and Alan Mowbray heading the list of supporting players. June went on to photograph most of Harlow's later films, and Hal Rosson later became Jean Harlow's husband — although that turned out to be another temporary assignment.

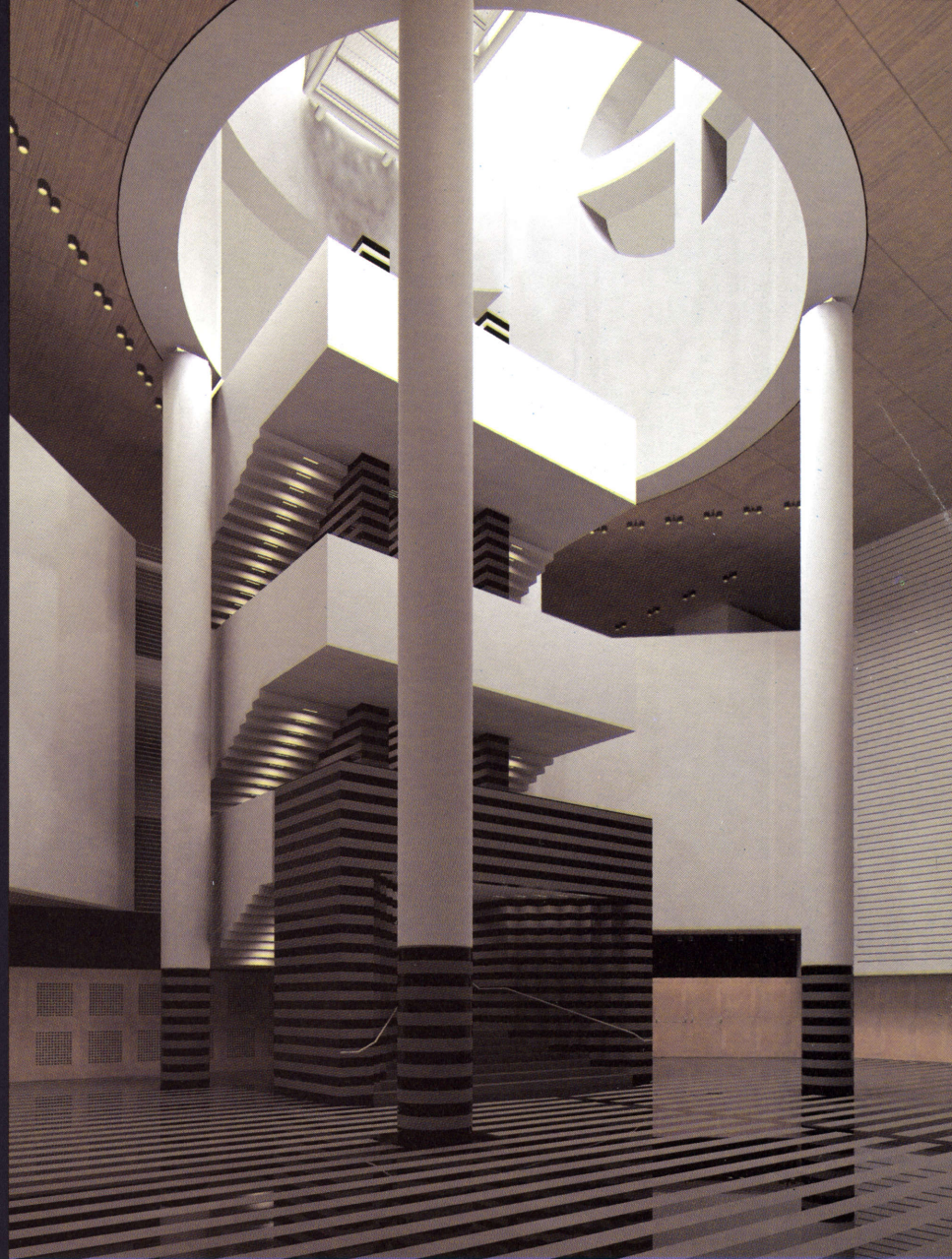
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as it would if captured on film.

Architect: Mario Botta, Lugano, Switzerland



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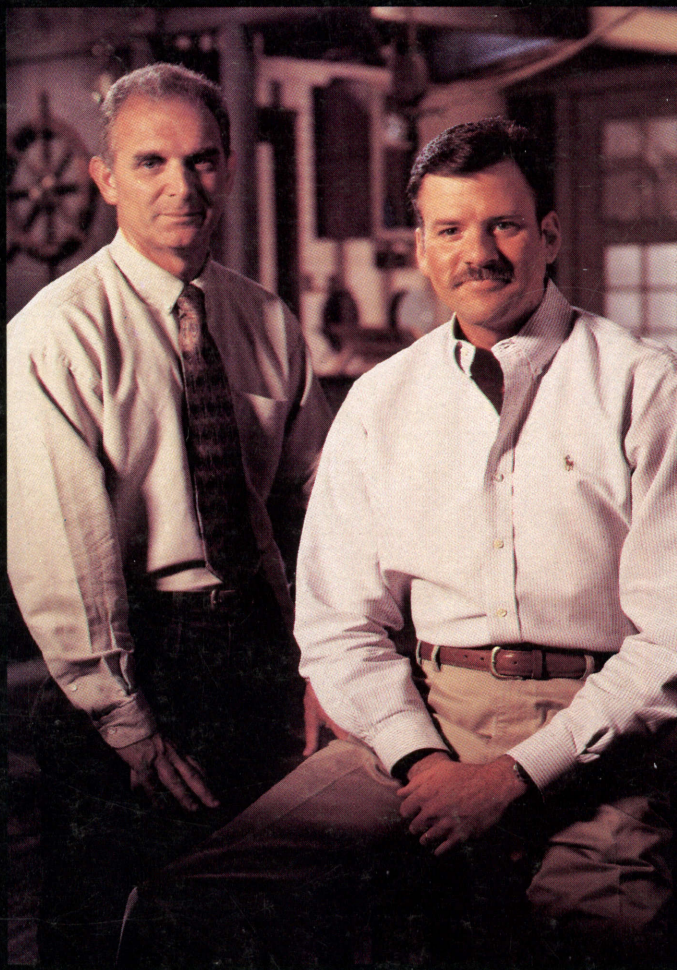
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Emmy Award winning
Lighting Designers
Tony Girolami
and Brian McRae
on the set of
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"GamFusion provides a quality diffusion with a varied selection necessary for the daily demands of daytime television." —Tony Girolami

"In the world of daytime drama, we produce 1 hour of television every day. I choose GamFusion...its multistep system provides me with consistently outstanding results." —Brian McRae

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Tony Girolami

Lighting Designer for
Guiding Light, CBS
General Manager/Lighting
Consultant, Film Equipment
Rental Company, NY
Lighting Designer for
Search for Tomorrow, CBS
Lighting Director/Lighting and
Electric Dept. Head, EUE
Screen Gems, NY

Emmy Nominations—1991, 1995
Emmy Award—1995

Brian McRae

Lighting Designer for
Guiding Light, CBS
Lighting Designer, *Santa Barbara*,
NBC
Director of Photography, *The
Animal Express*, w/Joan Embry
The Entertainment Channel
Videographer, Telemation
Productions, Chicago
Director, WOC-TV/NBC,
Davenport, Iowa
NBC credits: *Days of Our Lives*,
Super Password, *Wheel of
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